

**Updated and Revised**



**Grade**  
**4**

# **SPECTRUM** **Math**

***Excellent Tool for  
Standardized Test Preparation!***

- **Multiplying and dividing**
- **Fractions**
- **Metric and customary measurement**
- **Geometry**
- **Preparing for algebra**
- **Graphs and probability**
- **Answer key**





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**Check What You Know**Adding and Subtracting 1 and 2 DigitsAdd or subtract.

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>	<b>e</b>	<b>f</b>
<b>1.</b>	$\begin{array}{r} 35 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 25 \\ + 13 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ + 24 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ + 12 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ + 33 \\ \hline \end{array}$

<b>2.</b>	$\begin{array}{r} 43 \\ + 24 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 63 \\ + 31 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ + 16 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ + 23 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ + 15 \\ \hline \end{array}$
-----------	---	--	---	---	---	---

<b>3.</b>	$\begin{array}{r} 50 \\ + 33 \\ \hline \end{array}$	$\begin{array}{r} 95 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ + 25 \\ \hline \end{array}$	$\begin{array}{r} 73 \\ + 25 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ + 13 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ + 32 \\ \hline \end{array}$
-----------	---	--	---	---	---	---

<b>4.</b>	$\begin{array}{r} 12 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ + 12 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ + 23 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ + 19 \\ \hline \end{array}$	$\begin{array}{r} 92 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ + 23 \\ \hline \end{array}$
-----------	--	---	---	---	--	---

<b>5.</b>	$\begin{array}{r} 45 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ - 23 \\ \hline \end{array}$	$\begin{array}{r} 66 \\ - 14 \\ \hline \end{array}$	$\begin{array}{r} 95 \\ - 31 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ - 22 \\ \hline \end{array}$	$\begin{array}{r} 25 \\ - 12 \\ \hline \end{array}$
-----------	--	---	---	---	---	---

<b>6.</b>	$\begin{array}{r} 49 \\ - 27 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ - 46 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ - 18 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ - 27 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ - 56 \\ \hline \end{array}$
-----------	---	---	---	---	--	---

<b>7.</b>	$\begin{array}{r} 65 \\ - 55 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ - 33 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ - 42 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ - 26 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ - 15 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ - 48 \\ \hline \end{array}$
-----------	---	---	---	---	---	---

<b>8.</b>	$\begin{array}{r} 54 \\ - 23 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ - 18 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ - 37 \\ \hline \end{array}$	$\begin{array}{r} 99 \\ - 66 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ - 27 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ - 15 \\ \hline \end{array}$
-----------	---	---	---	---	---	---





# Check What You Know

## SHOW YOUR WORK

### Adding and Subtracting 1 and 2 Digits

Solve each problem.

- 9.** Kai has 10 postcards from her cousin Alicia. She put them into her collection box with her other 46 postcards. How many postcards does Kai have in her box?

There are \_\_\_\_\_ postcards in her box.
- 10.** Mr. Dimas has 15 new students in his fourth-grade class. He already has 21 students in the class. How many students are in Mr. Dimas's class?

There are \_\_\_\_\_ students in his class.
- 11.** There are 35 pages in Kendrick's science book. Last night, Kendrick read 14 pages. How many more pages does Kendrick have left to read?

There are \_\_\_\_\_ pages left to read.
- 12.** Kono's father gave him 75 apples so he could pass them out to his friends. If Kono gave 43 away, how many apples does he have left?

There are \_\_\_\_\_ apples left.
- 13.** Monica and Tania want to throw a surprise party for Rosa. They plan to send out 45 invitations. If Tania writes 24, how many invitations does Monica need to write?

Monica needs to write \_\_\_\_\_ invitations.
- 14.** Seki's soccer team is in the State Cup Tournament. There were 23 goals made in the entire tournament. Seki's team made 12 of them. How many goals were made by the other teams?

The other teams scored \_\_\_\_\_ goals.

9.

10.

11.

12.

13.

14.



## Lesson 1.1 Adding 1- and 2-Digit Numbers

addend	→	6	60
addend	→	+3	+30
		<hr/>	<hr/>
sum	→	9	90

If  $6 + 3 = 9$ , then  $60 + 30 = 90$ .

Add the ones.      Add the tens.

$$\begin{array}{r} 23 \\ + 16 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ + 16 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ + 16 \\ \hline \end{array}$$

Add.

	a	b	c	d	e	f
I.	11	10	25	81	52	74
	+ 8	+ 30	+ 14	+ 18	+ 17	+ 23

2. 
$$\begin{array}{r} 10 \\ + 80 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ + 2 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ + 92 \\ \hline \end{array} \quad \begin{array}{r} 71 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 70 \\ + 10 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 7 \\ + 22 \\ \hline \end{array}$$
 
$$\begin{array}{r} 20 \\ + 30 \\ \hline \end{array}$$
 
$$\begin{array}{r} 92 \\ + 7 \\ \hline \end{array}$$
 
$$\begin{array}{r} 83 \\ + 16 \\ \hline \end{array}$$
 
$$\begin{array}{r} 46 \\ + 23 \\ \hline \end{array}$$
 
$$\begin{array}{r} 70 \\ + 20 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 2 \\ + 41 \\ \hline \end{array}$$
 
$$\begin{array}{r} 30 \\ + 30 \\ \hline \end{array}$$
 
$$\begin{array}{r} 51 \\ + 48 \\ \hline \end{array}$$
 
$$\begin{array}{r} 34 \\ + 24 \\ \hline \end{array}$$
 
$$\begin{array}{r} 7 \\ + 22 \\ \hline \end{array}$$
 
$$\begin{array}{r} 20 \\ + 50 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 30 \\ + 15 \\ \hline \end{array}$$
 
$$\begin{array}{r} 21 \\ + 21 \\ \hline \end{array}$$
 
$$\begin{array}{r} 7 \\ + 42 \\ \hline \end{array}$$
 
$$\begin{array}{r} 40 \\ + 40 \\ \hline \end{array}$$
 
$$\begin{array}{r} 56 \\ + 41 \\ \hline \end{array}$$
 
$$\begin{array}{r} 62 \\ + 17 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 34 \\ + 34 \\ \hline \end{array}$$
 
$$\begin{array}{r} 60 \\ + 13 \\ \hline \end{array}$$
 
$$\begin{array}{r} 9 \\ + 30 \\ \hline \end{array}$$
 
$$\begin{array}{r} 4 \\ + 3 \\ \hline \end{array}$$
 
$$\begin{array}{r} 13 \\ + 6 \\ \hline \end{array}$$
 
$$\begin{array}{r} 44 \\ + 33 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 3 \\ + 32 \\ \hline \end{array}$$
 
$$\begin{array}{r} 5 \\ + 10 \\ \hline \end{array}$$
 
$$\begin{array}{r} 63 \\ + 24 \\ \hline \end{array}$$
 
$$\begin{array}{r} 71 \\ + 20 \\ \hline \end{array}$$
 
$$\begin{array}{r} 41 \\ + 8 \\ \hline \end{array}$$
 
$$\begin{array}{r} 32 \\ + 30 \\ \hline \end{array}$$



# Lesson 1.2 Subtracting 1- and 2-Digit Numbers

minuend	→	9	90
subtrahend	→	-3	-30
difference	→	<u>6</u>	<u>60</u>

If  $9 - 3 = 6$ , then  $90 - 30 = 60$ .

	Subtract the ones.	Subtract the tens.
$\begin{array}{r} 53 \\ -21 \\ \hline \end{array}$	$\begin{array}{r} 53 \\ -21 \\ \hline 2 \end{array}$	$\begin{array}{r} 53 \\ -21 \\ \hline 32 \end{array}$

Subtract.

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>	<b>e</b>	<b>f</b>
<b>1.</b>	$\begin{array}{r} 33 \\ -12 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ -20 \\ \hline \end{array}$	$\begin{array}{r} 91 \\ -30 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 90 \\ -20 \\ \hline \end{array}$	$\begin{array}{r} 72 \\ -11 \\ \hline \end{array}$
<b>2.</b>	$\begin{array}{r} 88 \\ -24 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ -38 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ -31 \\ \hline \end{array}$	$\begin{array}{r} 50 \\ -40 \\ \hline \end{array}$	$\begin{array}{r} 48 \\ -17 \\ \hline \end{array}$	$\begin{array}{r} 72 \\ -62 \\ \hline \end{array}$
<b>3.</b>	$\begin{array}{r} 25 \\ -15 \\ \hline \end{array}$	$\begin{array}{r} 94 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 50 \\ -30 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -12 \\ \hline \end{array}$
<b>4.</b>	$\begin{array}{r} 53 \\ -40 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ -42 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -8 \\ \hline \end{array}$
<b>5.</b>	$\begin{array}{r} 49 \\ -18 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ -27 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ -22 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ -37 \\ \hline \end{array}$
<b>6.</b>	$\begin{array}{r} 79 \\ -35 \\ \hline \end{array}$	$\begin{array}{r} 21 \\ -11 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ -42 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ -64 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ -35 \\ \hline \end{array}$
<b>7.</b>	$\begin{array}{r} 25 \\ -13 \\ \hline \end{array}$	$\begin{array}{r} 71 \\ -20 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ -23 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ -41 \\ \hline \end{array}$	$\begin{array}{r} 85 \\ -63 \\ \hline \end{array}$	$\begin{array}{r} 99 \\ -77 \\ \hline \end{array}$



# Lesson 1.3 Adding Three or More Numbers (single digit)

$$\begin{array}{r} 2 \\ 6 \\ +7 \\ \hline \end{array} \rightarrow \begin{array}{r} 8 \\ 7 \\ + \\ \hline 15 \end{array}$$

$$\begin{array}{r} 3 \\ 4 \\ 7 \\ +1 \\ \hline \end{array} \rightarrow \begin{array}{r} 7 \\ 7 \\ +1 \\ \hline \end{array} \rightarrow \begin{array}{r} 14 \\ 1 \\ + \\ \hline 15 \end{array}$$

Add.

	a	b	c	d	e	f	g	h
1.	$\begin{array}{r} 3 \\ 4 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ 6 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 5 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 3 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 7 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 8 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 6 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ 7 \\ +6 \\ \hline \end{array}$
2.	$\begin{array}{r} 4 \\ 6 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 5 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ 5 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 5 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 7 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 8 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ 6 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 3 \\ +7 \\ \hline \end{array}$
3.	$\begin{array}{r} 8 \\ 7 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 3 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 8 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ 8 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 7 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 6 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ 8 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 7 \\ +9 \\ \hline \end{array}$
4.	$\begin{array}{r} 1 \\ 3 \\ 5 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ 6 \\ 7 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ 5 \\ 9 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 5 \\ 4 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ 2 \\ 2 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ 7 \\ 8 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 4 \\ 5 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 4 \\ 6 \\ +8 \\ \hline \end{array}$
5.	$\begin{array}{r} 2 \\ 6 \\ 4 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ 2 \\ 8 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 5 \\ 7 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 3 \\ 4 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 5 \\ 4 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 3 \\ 7 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 4 \\ 8 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ 7 \\ 1 \\ +9 \\ \hline \end{array}$
6.	$\begin{array}{r} 9 \\ 1 \\ 7 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 4 \\ 7 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ 5 \\ 7 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 3 \\ 6 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 3 \\ 9 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 6 \\ 8 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 3 \\ 7 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ 1 \\ 8 \\ +5 \\ \hline \end{array}$



# Lesson 1.4 Adding through 2 Digits (with renaming)

Add the ones.

Add the tens.

$$\begin{array}{r} 52 \\ + 29 \\ \hline \end{array}$$

$$2 + 9 = 11 \text{ or } 10 + 1$$

$$\begin{array}{r} 52 \\ + 29 \\ \hline \end{array}$$

$$\begin{array}{r} 52 \\ + 29 \\ \hline 81 \end{array}$$

addend  
addend  
sum

Add.

**1.**

$$\begin{array}{r} 36 \\ + 15 \\ \hline \end{array}$$

**b**

$$\begin{array}{r} 29 \\ + 18 \\ \hline \end{array}$$

**c**

$$\begin{array}{r} 57 \\ + 23 \\ \hline \end{array}$$

**d**

$$\begin{array}{r} 18 \\ + 13 \\ \hline \end{array}$$

**e**

$$\begin{array}{r} 74 \\ + 6 \\ \hline \end{array}$$

**f**

$$\begin{array}{r} 8 \\ + 27 \\ \hline \end{array}$$

**2.**

$$\begin{array}{r} 88 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 47 \\ + 17 \\ \hline \end{array}$$

$$\begin{array}{r} 27 \\ + 47 \\ \hline \end{array}$$

$$\begin{array}{r} 55 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ + 15 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ + 19 \\ \hline \end{array}$$

**3.**

$$\begin{array}{r} 65 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 39 \\ + 39 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ + 25 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ + 45 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ + 48 \\ \hline \end{array}$$

$$\begin{array}{r} 75 \\ + 16 \\ \hline \end{array}$$

**4.**

$$\begin{array}{r} 37 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ + 48 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ + 68 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ + 22 \\ \hline \end{array}$$

$$\begin{array}{r} 37 \\ + 17 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ + 18 \\ \hline \end{array}$$

**5.**

$$\begin{array}{r} 65 \\ + 25 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 48 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 77 \\ \hline \end{array}$$

$$\begin{array}{r} 82 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ + 32 \\ \hline \end{array}$$

**6.**

$$\begin{array}{r} 39 \\ + 29 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ + 28 \\ \hline \end{array}$$

$$\begin{array}{r} 29 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ + 57 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ + 14 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 72 \\ \hline \end{array}$$

**7.**

$$\begin{array}{r} 75 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 73 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ + 36 \\ \hline \end{array}$$

$$\begin{array}{r} 78 \\ + 18 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ + 19 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ + 17 \\ \hline \end{array}$$



**Lesson 1.5****Adding Three or More Numbers (2 digit)**

addend  $\longrightarrow$  26  
 addend  $\longrightarrow$  38  
 addend  $\longrightarrow$  + 56

6 + 8 + 6 = 20    20 = 20 + 0

20 + 20 + 30 + 50 = 120    120 = 100 + 20

**Add the ones.**

$$\begin{array}{r} 26 \\ 38 \\ + 56 \\ \hline \end{array}$$

**Add the tens.**

$$\begin{array}{r} 26 \\ 38 \\ + 56 \\ \hline 120 \end{array}$$

← addend  
 ← addend  
 ← addend  
 ← sum

Add.

- |           | <b>a</b>  | <b>b</b>  | <b>c</b>  | <b>d</b>  | <b>e</b>  | <b>f</b>  |
|-----------|---|---|---|---|---|---|
| <b>1.</b> | $\begin{array}{r} 27 \\ 32 \\ + 43 \\ \hline \end{array}$       | $\begin{array}{r} 39 \\ 48 \\ + 76 \\ \hline \end{array}$       | $\begin{array}{r} 48 \\ 68 \\ + 78 \\ \hline \end{array}$       | $\begin{array}{r} 97 \\ 85 \\ + 63 \\ \hline \end{array}$       | $\begin{array}{r} 45 \\ 74 \\ + 48 \\ \hline \end{array}$       | $\begin{array}{r} 97 \\ 23 \\ + 19 \\ \hline \end{array}$       |
| <b>2.</b> | $\begin{array}{r} 77 \\ 99 \\ + 32 \\ \hline \end{array}$       | $\begin{array}{r} 81 \\ 19 \\ + 38 \\ \hline \end{array}$       | $\begin{array}{r} 53 \\ 78 \\ + 89 \\ \hline \end{array}$       | $\begin{array}{r} 75 \\ 69 \\ + 78 \\ \hline \end{array}$       | $\begin{array}{r} 38 \\ 57 \\ + 75 \\ \hline \end{array}$       | $\begin{array}{r} 92 \\ 89 \\ + 95 \\ \hline \end{array}$       |
| <b>3.</b> | $\begin{array}{r} 37 \\ 29 \\ + 49 \\ \hline \end{array}$       | $\begin{array}{r} 87 \\ 78 \\ + 95 \\ \hline \end{array}$       | $\begin{array}{r} 38 \\ 49 \\ + 57 \\ \hline \end{array}$       | $\begin{array}{r} 42 \\ 28 \\ + 66 \\ \hline \end{array}$       | $\begin{array}{r} 56 \\ 65 \\ + 77 \\ \hline \end{array}$       | $\begin{array}{r} 19 \\ 37 \\ + 49 \\ \hline \end{array}$       |
| <b>4.</b> | $\begin{array}{r} 35 \\ 73 \\ 57 \\ + 66 \\ \hline \end{array}$ | $\begin{array}{r} 73 \\ 28 \\ 40 \\ + 66 \\ \hline \end{array}$ | $\begin{array}{r} 88 \\ 22 \\ 38 \\ + 82 \\ \hline \end{array}$ | $\begin{array}{r} 75 \\ 24 \\ 93 \\ + 51 \\ \hline \end{array}$ | $\begin{array}{r} 29 \\ 93 \\ 37 \\ + 55 \\ \hline \end{array}$ | $\begin{array}{r} 21 \\ 62 \\ 45 \\ + 38 \\ \hline \end{array}$ |
| <b>5.</b> | $\begin{array}{r} 51 \\ 71 \\ 89 \\ + 99 \\ \hline \end{array}$ | $\begin{array}{r} 20 \\ 18 \\ 39 \\ + 47 \\ \hline \end{array}$ | $\begin{array}{r} 17 \\ 45 \\ 83 \\ + 97 \\ \hline \end{array}$ | $\begin{array}{r} 27 \\ 58 \\ 74 \\ + 63 \\ \hline \end{array}$ | $\begin{array}{r} 13 \\ 39 \\ 57 \\ + 89 \\ \hline \end{array}$ | $\begin{array}{r} 57 \\ 33 \\ 71 \\ + 66 \\ \hline \end{array}$ |
| <b>6.</b> | $\begin{array}{r} 39 \\ 29 \\ 58 \\ + 78 \\ \hline \end{array}$ | $\begin{array}{r} 13 \\ 25 \\ 77 \\ + 89 \\ \hline \end{array}$ | $\begin{array}{r} 27 \\ 53 \\ 68 \\ + 74 \\ \hline \end{array}$ | $\begin{array}{r} 27 \\ 48 \\ 31 \\ + 97 \\ \hline \end{array}$ | $\begin{array}{r} 22 \\ 17 \\ 39 \\ + 45 \\ \hline \end{array}$ | $\begin{array}{r} 39 \\ 49 \\ 66 \\ + 77 \\ \hline \end{array}$ |



**Lesson 1.6****Subtracting 2 Digits from 3 Digits  
(with renaming)**

To subtract the ones, rename 5 tens and 3 ones as "4 tens and 13 ones."

$$\begin{array}{r} \text{minuend} \rightarrow 153 \\ \text{subtrahend} \rightarrow -37 \\ \hline \text{difference} \rightarrow \end{array}$$

$$\begin{array}{r} 4\ 13 \\ 1\ \cancel{5}\ \cancel{3} \\ - 37 \\ \hline \end{array}$$

Subtract the ones.

$$\begin{array}{r} 4\ 13 \\ 1\ \cancel{5}\ \cancel{3} \\ - 37 \\ \hline 6 \end{array}$$

Subtract the tens.

$$\begin{array}{r} 4\ 13 \\ 1\ \cancel{5}\ \cancel{3} \\ - 37 \\ \hline 16 \end{array}$$

Subtract the hundreds.

$$\begin{array}{r} 4\ 13 \\ 1\ \cancel{5}\ \cancel{3} \\ - 37 \\ \hline 116 \end{array}$$

Subtract.

- |           | <b>a</b>   | <b>b</b>   | <b>c</b>   | <b>d</b>   | <b>e</b>   | <b>f</b>   |
|-----------|--|--|--|--|--|--|
| <b>1.</b> | $\begin{array}{r} 175 \\ - 38 \\ \hline \end{array}$ | $\begin{array}{r} 132 \\ - 17 \\ \hline \end{array}$ | $\begin{array}{r} 175 \\ - 56 \\ \hline \end{array}$ | $\begin{array}{r} 134 \\ - 29 \\ \hline \end{array}$ | $\begin{array}{r} 144 \\ - 28 \\ \hline \end{array}$ | $\begin{array}{r} 156 \\ - 38 \\ \hline \end{array}$ |
| <b>2.</b> | $\begin{array}{r} 182 \\ - 73 \\ \hline \end{array}$ | $\begin{array}{r} 177 \\ - 59 \\ \hline \end{array}$ | $\begin{array}{r} 123 \\ - 18 \\ \hline \end{array}$ | $\begin{array}{r} 141 \\ - 33 \\ \hline \end{array}$ | $\begin{array}{r} 173 \\ - 54 \\ \hline \end{array}$ | $\begin{array}{r} 182 \\ - 48 \\ \hline \end{array}$ |
| <b>3.</b> | $\begin{array}{r} 141 \\ - 29 \\ \hline \end{array}$ | $\begin{array}{r} 193 \\ - 47 \\ \hline \end{array}$ | $\begin{array}{r} 165 \\ - 46 \\ \hline \end{array}$ | $\begin{array}{r} 152 \\ - 37 \\ \hline \end{array}$ | $\begin{array}{r} 172 \\ - 29 \\ \hline \end{array}$ | $\begin{array}{r} 161 \\ - 27 \\ \hline \end{array}$ |
| <b>4.</b> | $\begin{array}{r} 183 \\ - 68 \\ \hline \end{array}$ | $\begin{array}{r} 127 \\ - 18 \\ \hline \end{array}$ | $\begin{array}{r} 134 \\ - 19 \\ \hline \end{array}$ | $\begin{array}{r} 172 \\ - 57 \\ \hline \end{array}$ | $\begin{array}{r} 124 \\ - 17 \\ \hline \end{array}$ | $\begin{array}{r} 153 \\ - 37 \\ \hline \end{array}$ |
| <b>5.</b> | $\begin{array}{r} 171 \\ - 39 \\ \hline \end{array}$ | $\begin{array}{r} 146 \\ - 27 \\ \hline \end{array}$ | $\begin{array}{r} 183 \\ - 68 \\ \hline \end{array}$ | $\begin{array}{r} 191 \\ - 72 \\ \hline \end{array}$ | $\begin{array}{r} 173 \\ - 47 \\ \hline \end{array}$ | $\begin{array}{r} 157 \\ - 38 \\ \hline \end{array}$ |
| <b>6.</b> | $\begin{array}{r} 128 \\ - 19 \\ \hline \end{array}$ | $\begin{array}{r} 172 \\ - 36 \\ \hline \end{array}$ | $\begin{array}{r} 156 \\ - 29 \\ \hline \end{array}$ | $\begin{array}{r} 177 \\ - 39 \\ \hline \end{array}$ | $\begin{array}{r} 152 \\ - 19 \\ \hline \end{array}$ | $\begin{array}{r} 174 \\ - 38 \\ \hline \end{array}$ |
| <b>7.</b> | $\begin{array}{r} 145 \\ - 26 \\ \hline \end{array}$ | $\begin{array}{r} 161 \\ - 33 \\ \hline \end{array}$ | $\begin{array}{r} 173 \\ - 37 \\ \hline \end{array}$ | $\begin{array}{r} 127 \\ - 18 \\ \hline \end{array}$ | $\begin{array}{r} 153 \\ - 28 \\ \hline \end{array}$ | $\begin{array}{r} 191 \\ - 73 \\ \hline \end{array}$ |



**Lesson 1.6****Subtracting 2 Digits from 3 Digits  
(with renaming)**

Rename 515 as  
"5 hundreds, 0 tens,  
and 15 ones."  
Subtract the ones.

$$\begin{array}{r} 515 \\ - 27 \\ \hline \end{array}$$

$$\begin{array}{r} \phantom{0}15 \\ 5\cancel{1}\cancel{5} \\ - 27 \\ \hline 8 \end{array}$$

Then, rename  
"4 hundreds, 10 tens,  
and 15 ones."  
Subtract the tens.

$$\begin{array}{r} 41015 \\ \cancel{5}\cancel{1}\cancel{5} \\ - 27 \\ \hline 88 \end{array}$$

Subtract  
the  
hundreds.

$$\begin{array}{r} 41015 \\ \cancel{5}\cancel{1}\cancel{5} \\ - 27 \\ \hline 488 \end{array}$$

← minuend  
← subtrahend  
← difference

Subtract.

**a**

$$\begin{array}{r} 138 \\ - 59 \\ \hline \end{array}$$

**b**

$$\begin{array}{r} 162 \\ - 79 \\ \hline \end{array}$$

**c**

$$\begin{array}{r} 155 \\ - 66 \\ \hline \end{array}$$

**d**

$$\begin{array}{r} 128 \\ - 59 \\ \hline \end{array}$$

**e**

$$\begin{array}{r} 147 \\ - 58 \\ \hline \end{array}$$

**f**

$$\begin{array}{r} 174 \\ - 85 \\ \hline \end{array}$$

**2.**

$$\begin{array}{r} 131 \\ - 49 \\ \hline \end{array}$$

$$\begin{array}{r} 153 \\ - 67 \\ \hline \end{array}$$

$$\begin{array}{r} 167 \\ - 79 \\ \hline \end{array}$$

$$\begin{array}{r} 144 \\ - 58 \\ \hline \end{array}$$

$$\begin{array}{r} 172 \\ - 89 \\ \hline \end{array}$$

$$\begin{array}{r} 125 \\ - 38 \\ \hline \end{array}$$

**3.**

$$\begin{array}{r} 114 \\ - 37 \\ \hline \end{array}$$

$$\begin{array}{r} 134 \\ - 56 \\ \hline \end{array}$$

$$\begin{array}{r} 181 \\ - 92 \\ \hline \end{array}$$

$$\begin{array}{r} 133 \\ - 44 \\ \hline \end{array}$$

$$\begin{array}{r} 127 \\ - 49 \\ \hline \end{array}$$

$$\begin{array}{r} 174 \\ - 88 \\ \hline \end{array}$$

**4.**

$$\begin{array}{r} 122 \\ - 88 \\ \hline \end{array}$$

$$\begin{array}{r} 154 \\ - 77 \\ \hline \end{array}$$

$$\begin{array}{r} 161 \\ - 94 \\ \hline \end{array}$$

$$\begin{array}{r} 166 \\ - 87 \\ \hline \end{array}$$

$$\begin{array}{r} 127 \\ - 58 \\ \hline \end{array}$$

$$\begin{array}{r} 172 \\ - 99 \\ \hline \end{array}$$

**5.**

$$\begin{array}{r} 177 \\ - 88 \\ \hline \end{array}$$

$$\begin{array}{r} 123 \\ - 45 \\ \hline \end{array}$$

$$\begin{array}{r} 147 \\ - 68 \\ \hline \end{array}$$

$$\begin{array}{r} 181 \\ - 95 \\ \hline \end{array}$$

$$\begin{array}{r} 175 \\ - 89 \\ \hline \end{array}$$

$$\begin{array}{r} 141 \\ - 83 \\ \hline \end{array}$$

**6.**

$$\begin{array}{r} 185 \\ - 97 \\ \hline \end{array}$$

$$\begin{array}{r} 173 \\ - 87 \\ \hline \end{array}$$

$$\begin{array}{r} 142 \\ - 84 \\ \hline \end{array}$$

$$\begin{array}{r} 177 \\ - 98 \\ \hline \end{array}$$

$$\begin{array}{r} 136 \\ - 49 \\ \hline \end{array}$$

$$\begin{array}{r} 123 \\ - 77 \\ \hline \end{array}$$

**7.**

$$\begin{array}{r} 127 \\ - 58 \\ \hline \end{array}$$

$$\begin{array}{r} 126 \\ - 78 \\ \hline \end{array}$$

$$\begin{array}{r} 166 \\ - 89 \\ \hline \end{array}$$

$$\begin{array}{r} 137 \\ - 88 \\ \hline \end{array}$$

$$\begin{array}{r} 153 \\ - 84 \\ \hline \end{array}$$

$$\begin{array}{r} 175 \\ - 97 \\ \hline \end{array}$$



# Lesson 1.7 Thinking Subtraction for Addition

These numbers should be the same.

$$\begin{array}{r}
 55 \\
 + 43 \\
 \hline
 98 \\
 - 43 \\
 \hline
 55
 \end{array}$$

To check

$55 + 43 = 98$ ,  
subtract 43 from 98.

Add. Then, check your answer.

	a	b	c	d	e	f
1.	$  \begin{array}{r}  32 \\  + 47 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  63 \\  + 19 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  38 \\  + 24 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  52 \\  + 47 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  28 \\  + 15 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  75 \\  + 15 \\  \hline  \\  \\  \hline  \end{array}  $
2.	$  \begin{array}{r}  48 \\  + 27 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  82 \\  + 10 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  56 \\  + 38 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  44 \\  + 27 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  28 \\  + 27 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  39 \\  + 32 \\  \hline  \\  \\  \hline  \end{array}  $
3.	$  \begin{array}{r}  31 \\  + 59 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  43 \\  + 18 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  61 \\  + 29 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  125 \\  + 17 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  155 \\  + 38 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  205 \\  + 69 \\  \hline  \\  \\  \hline  \end{array}  $
4.	$  \begin{array}{r}  199 \\  + 14 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  128 \\  + 33 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  125 \\  + 50 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  109 \\  + 32 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  155 \\  + 27 \\  \hline  \\  \\  \hline  \end{array}  $	$  \begin{array}{r}  137 \\  + 29 \\  \hline  \\  \\  \hline  \end{array}  $



# Lesson 1.8 Thinking Addition for Subtraction

These numbers should be the same.

$$\begin{array}{r}
 138 \\
 - 24 \\
 \hline
 114 \\
 + 24 \\
 \hline
 138
 \end{array}$$

To check

$138 - 24 = 114$ ,  
add 24 to 114.

Subtract. Then, check your answer.

	a	b	c	d	e	f
1.	$  \begin{array}{r}  88 \\  - 45 \\  \hline  \end{array}  $	$  \begin{array}{r}  23 \\  - 19 \\  \hline  \end{array}  $	$  \begin{array}{r}  47 \\  - 28 \\  \hline  \end{array}  $	$  \begin{array}{r}  95 \\  - 38 \\  \hline  \end{array}  $	$  \begin{array}{r}  74 \\  - 27 \\  \hline  \end{array}  $	$  \begin{array}{r}  98 \\  - 73 \\  \hline  \end{array}  $
	+	+	+	+	+	+
2.	$  \begin{array}{r}  38 \\  - 17 \\  \hline  \end{array}  $	$  \begin{array}{r}  68 \\  - 27 \\  \hline  \end{array}  $	$  \begin{array}{r}  54 \\  - 36 \\  \hline  \end{array}  $	$  \begin{array}{r}  49 \\  - 32 \\  \hline  \end{array}  $	$  \begin{array}{r}  29 \\  - 10 \\  \hline  \end{array}  $	$  \begin{array}{r}  78 \\  - 39 \\  \hline  \end{array}  $
	+	+	+	+	+	+
3.	$  \begin{array}{r}  155 \\  - 28 \\  \hline  \end{array}  $	$  \begin{array}{r}  132 \\  - 38 \\  \hline  \end{array}  $	$  \begin{array}{r}  179 \\  - 82 \\  \hline  \end{array}  $	$  \begin{array}{r}  127 \\  - 89 \\  \hline  \end{array}  $	$  \begin{array}{r}  141 \\  - 62 \\  \hline  \end{array}  $	$  \begin{array}{r}  137 \\  - 52 \\  \hline  \end{array}  $
	+	+	+	+	+	+
4.	$  \begin{array}{r}  187 \\  - 99 \\  \hline  \end{array}  $	$  \begin{array}{r}  119 \\  - 20 \\  \hline  \end{array}  $	$  \begin{array}{r}  192 \\  - 73 \\  \hline  \end{array}  $	$  \begin{array}{r}  108 \\  - 39 \\  \hline  \end{array}  $	$  \begin{array}{r}  188 \\  - 90 \\  \hline  \end{array}  $	$  \begin{array}{r}  164 \\  - 78 \\  \hline  \end{array}  $
	+	+	+	+	+	+



**Lesson 1.9** Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** Isabel Jones needs to sell 175 calendars to raise money for the school band. She already sold 89 calendars. How many more calendars does she have to sell?

She has to sell \_\_\_\_\_ calendars.

- 2.** Jacob Elementary School had a book drive. On Monday, the students collected 95 books. They collected 78 more books on Tuesday. How many books did the students collect?

The students collected \_\_\_\_\_ books.

- 3.** The Grover family went on a spring vacation. Their cabin is 305 miles away. If they drive 98 miles the first day, how many more miles do they have to drive to get to the cabin?

They must drive \_\_\_\_\_ more miles.

- 4.** The school cafeteria had an all-you-can-eat pizza party for the entire school. They made 215 slices of cheese pizza and 120 slices of pepperoni pizza. How many slices of pizza did they make?

They made \_\_\_\_\_ slices of pizza.

- 5.** There are 250 species of turtles and tortoises in the world. If there are 86 species listed as endangered, how many species of turtles and tortoises are not endangered?

There are \_\_\_\_\_ species of turtles and tortoises that are not endangered.

**1.****2.****3.****4.****5.**



**Check What You Learned****Adding and Subtracting 1 and 2 Digits**

Add or subtract.

- |            | <b>a</b>  | <b>b</b>   | <b>c</b>  | <b>d</b>  | <b>e</b>   | <b>f</b>   |
|------------|---|--|---|---|--|--|
| <b>1.</b>  | $\begin{array}{r} 43 \\ + 27 \\ \hline \end{array}$       | $\begin{array}{r} 57 \\ + 21 \\ \hline \end{array}$      | $\begin{array}{r} 37 \\ + 15 \\ \hline \end{array}$       | $\begin{array}{r} 73 \\ + 28 \\ \hline \end{array}$       | $\begin{array}{r} 256 \\ + 43 \\ \hline \end{array}$       | $\begin{array}{r} 75 \\ + 25 \\ \hline \end{array}$  |
| <b>2.</b>  | $\begin{array}{r} 13 \\ 10 \\ + 8 \\ \hline \end{array}$  | $\begin{array}{r} 27 \\ 5 \\ + 23 \\ \hline \end{array}$ | $\begin{array}{r} 238 \\ + 68 \\ \hline \end{array}$      | $\begin{array}{r} 91 \\ 82 \\ + 73 \\ \hline \end{array}$ | $\begin{array}{r} 105 \\ 92 \\ + 14 \\ \hline \end{array}$ | $\begin{array}{r} 156 \\ + 48 \\ \hline \end{array}$ |
| <b>3.</b>  | $\begin{array}{r} 21 \\ + 13 \\ \hline \end{array}$       | $\begin{array}{r} 253 \\ + 42 \\ \hline \end{array}$     | $\begin{array}{r} 137 \\ + 28 \\ \hline \end{array}$      | $\begin{array}{r} 79 \\ + 97 \\ \hline \end{array}$       | $\begin{array}{r} 103 \\ + 18 \\ \hline \end{array}$       | $\begin{array}{r} 65 \\ + 17 \\ \hline \end{array}$  |
| <b>4.</b>  | $\begin{array}{r} 73 \\ 21 \\ + 10 \\ \hline \end{array}$ | $\begin{array}{r} 432 \\ + 48 \\ \hline \end{array}$     | $\begin{array}{r} 14 \\ 18 \\ + 32 \\ \hline \end{array}$ | $\begin{array}{r} 66 \\ + 34 \\ \hline \end{array}$       | $\begin{array}{r} 34 \\ 45 \\ + 57 \\ \hline \end{array}$  | $\begin{array}{r} 13 \\ + 74 \\ \hline \end{array}$  |
| <b>5.</b>  | $\begin{array}{r} 77 \\ + 15 \\ \hline \end{array}$       | $\begin{array}{r} 104 \\ + 76 \\ \hline \end{array}$     | $\begin{array}{r} 90 \\ + 45 \\ \hline \end{array}$       | $\begin{array}{r} 143 \\ + 38 \\ \hline \end{array}$      | $\begin{array}{r} 103 \\ + 97 \\ \hline \end{array}$       | $\begin{array}{r} 91 \\ + 17 \\ \hline \end{array}$  |
| <b>6.</b>  | $\begin{array}{r} 245 \\ - 32 \\ \hline \end{array}$      | $\begin{array}{r} 105 \\ - 16 \\ \hline \end{array}$     | $\begin{array}{r} 35 \\ - 12 \\ \hline \end{array}$       | $\begin{array}{r} 72 \\ - 28 \\ \hline \end{array}$       | $\begin{array}{r} 91 \\ - 73 \\ \hline \end{array}$        | $\begin{array}{r} 35 \\ - 7 \\ \hline \end{array}$   |
| <b>7.</b>  | $\begin{array}{r} 107 \\ - 34 \\ \hline \end{array}$      | $\begin{array}{r} 94 \\ - 25 \\ \hline \end{array}$      | $\begin{array}{r} 215 \\ - 26 \\ \hline \end{array}$      | $\begin{array}{r} 88 \\ - 49 \\ \hline \end{array}$       | $\begin{array}{r} 173 \\ - 28 \\ \hline \end{array}$       | $\begin{array}{r} 72 \\ - 61 \\ \hline \end{array}$  |
| <b>8.</b>  | $\begin{array}{r} 35 \\ - 16 \\ \hline \end{array}$       | $\begin{array}{r} 108 \\ - 19 \\ \hline \end{array}$     | $\begin{array}{r} 51 \\ - 32 \\ \hline \end{array}$       | $\begin{array}{r} 125 \\ - 15 \\ \hline \end{array}$      | $\begin{array}{r} 199 \\ - 84 \\ \hline \end{array}$       | $\begin{array}{r} 84 \\ - 26 \\ \hline \end{array}$  |
| <b>9.</b>  | $\begin{array}{r} 147 \\ - 48 \\ \hline \end{array}$      | $\begin{array}{r} 62 \\ - 22 \\ \hline \end{array}$      | $\begin{array}{r} 57 \\ - 32 \\ \hline \end{array}$       | $\begin{array}{r} 111 \\ - 12 \\ \hline \end{array}$      | $\begin{array}{r} 123 \\ - 48 \\ \hline \end{array}$       | $\begin{array}{r} 92 \\ - 29 \\ \hline \end{array}$  |
| <b>10.</b> | $\begin{array}{r} 187 \\ - 38 \\ \hline \end{array}$      | $\begin{array}{r} 55 \\ - 18 \\ \hline \end{array}$      | $\begin{array}{r} 110 \\ - 32 \\ \hline \end{array}$      | $\begin{array}{r} 36 \\ - 17 \\ \hline \end{array}$       | $\begin{array}{r} 192 \\ - 83 \\ \hline \end{array}$       | $\begin{array}{r} 44 \\ - 25 \\ \hline \end{array}$  |



**Check What You Learned****SHOW YOUR WORK****Adding and Subtracting 1 and 2 Digits**

Solve each problem.

- 11.** Tonya and her friends are collecting cans to recycle. Tonya has 55 cans, Irene has 32 cans, and Heather has 13 cans. How many cans do they have altogether?

They have \_\_\_\_\_ cans.

**11.**

- 12.** The Liberty football team is raising money for its new uniforms by running a car wash. They need to wash 210 cars to raise all the money. If they have washed 98 cars already, how many more cars do they need to wash?

They need to wash \_\_\_\_\_ more cars.

**12.**

- 13.** Ms. Yolanda Brooks' science class is studying the environment around the school. The boys in the class counted 57 different plants and the girls counted 25 different types of animals. How many plants and animals did the class find altogether?

The class found \_\_\_\_\_ plants and animals.

**13.**

- 14.** On a field trip, two sisters found frog eggs in a pond. Desiree found 82 eggs and Shanee found 118 eggs. How many frog eggs did the sisters find?

They found \_\_\_\_\_ frog eggs.

**14.**

- 15.** At the bake sale, students brought in 115 different types of cupcakes, 95 types of brownies, and 85 types of cookies. How many different types of baked goods did the students bring in?

They brought in \_\_\_\_\_ different types of baked goods.

**15.**



**Check What You Know****Numeration through 1,000,000**

Write each number in expanded form.

**1.**                      **a**  
3,245

\_\_\_\_\_

**b**  
973

\_\_\_\_\_

**c**  
51

\_\_\_\_\_

**2.**                      6,675

\_\_\_\_\_

845,450

\_\_\_\_\_

790

\_\_\_\_\_

What digit is in the place named?

**3.**                      **a**  
945  
tens

\_\_\_\_\_ is in the tens place.

**b**  
4,332  
hundreds

\_\_\_\_\_ is in the hundreds place.

**4.**                      52,321  
thousands

\_\_\_\_\_ is in the thousands place.

528,455  
ones

\_\_\_\_\_ is in the ones place.

**5.**                      495,362  
ten thousands

\_\_\_\_\_ is in the ten thousands place.

9,365,732  
millions

\_\_\_\_\_ is in the millions place.

Compare each pair of numbers. Write  $>$ ,  $<$ , or  $=$ .

**6.**                      **a**  
4,312  $\underline{\hspace{1cm}}$  4,213

**b**  
95  $\underline{\hspace{1cm}}$  58

**c**  
408  $\underline{\hspace{1cm}}$  480

**7.**                      52,650  $\underline{\hspace{1cm}}$  52,560

610  $\underline{\hspace{1cm}}$  672

72  $\underline{\hspace{1cm}}$  62

**8.**                      52,173  $\underline{\hspace{1cm}}$  520,173    4,675,321  $\underline{\hspace{1cm}}$  4,751,670

25  $\underline{\hspace{1cm}}$  52

**9.**                      158,325  $\underline{\hspace{1cm}}$  158,325

652  $\underline{\hspace{1cm}}$  256

8,910,003  $\underline{\hspace{1cm}}$  8,910,003





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# Lesson 6.3 Dividing 3 Digits

Since  $100 \times 8 = 800$  and 800 is greater than 453, there is no hundred digit.

$$8 \overline{) 453}$$

x	10	20	30	40	50	60
8	80	160	240	320	400	480

453 is between 400 and 480.  $453 \div 8$  is between 50 and 60. The tens digit is 5.

$$\begin{array}{r} 5 \\ 8 \overline{) 453} \\ - 40 \quad 8 \times 5 = 40 \\ \hline 53 \text{ Subtract} \end{array}$$

x	1	2	3	4	5	6	7
8	8	16	24	32	40	48	56

53 is between 48 and 56.  $53 \div 8$  is between 6 and 7. The ones digit is 6.

$$\begin{array}{r} 56 \text{ r } 5 \\ 8 \overline{) 453} \\ - 40 \\ \hline 53 \quad 8 \times 6 = 48 \\ - 48 \quad \text{Subtract} \\ \hline 5 \quad \text{Remainder} \end{array}$$

Divide.

a

b

c

d

e

1.  $8 \overline{) 720}$

$4 \overline{) 372}$

$9 \overline{) 372}$

$4 \overline{) 173}$

$2 \overline{) 150}$

2.  $6 \overline{) 552}$

$3 \overline{) 139}$

$4 \overline{) 248}$

$9 \overline{) 890}$

$5 \overline{) 105}$

3.  $9 \overline{) 780}$

$5 \overline{) 225}$

$9 \overline{) 813}$

$7 \overline{) 511}$

$3 \overline{) 110}$



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## Check What You Learned

### Dividing 2 and 3 Digits by 1 Digit

Divide.

**a**

**b**

**c**

**d**

**e**

**1.**

$$2 \overline{) 32}$$

$$3 \overline{) 321}$$

$$3 \overline{) 49}$$

$$8 \overline{) 97}$$

$$2 \overline{) 178}$$

**2.**

$$4 \overline{) 121}$$

$$6 \overline{) 798}$$

$$5 \overline{) 557}$$

$$6 \overline{) 636}$$

$$8 \overline{) 889}$$

**3.**

$$2 \overline{) 96}$$

$$3 \overline{) 87}$$

$$8 \overline{) 93}$$

$$3 \overline{) 42}$$

$$7 \overline{) 31}$$

**4.**

$$8 \overline{) 75}$$

$$2 \overline{) 19}$$

$$8 \overline{) 43}$$

$$9 \overline{) 89}$$

$$3 \overline{) 66}$$

**5.**

$$3 \overline{) 603}$$

$$5 \overline{) 917}$$

$$6 \overline{) 762}$$

$$7 \overline{) 37}$$

$$2 \overline{) 48}$$



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**Mid-Test** Chapters 1–6

Subtract.

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>	<b>e</b>
<b>19.</b>	$\begin{array}{r} 32146 \\ - 3132 \\ \hline \end{array}$	$\begin{array}{r} 67315 \\ - 14305 \\ \hline \end{array}$	$\begin{array}{r} 40195 \\ - 9186 \\ \hline \end{array}$	$\begin{array}{r} 75532 \\ - 21530 \\ \hline \end{array}$	$\begin{array}{r} 25789 \\ - 6642 \\ \hline \end{array}$

<b>20.</b>	$\begin{array}{r} 17315 \\ - 8904 \\ \hline \end{array}$	$\begin{array}{r} 98789 \\ - 73979 \\ \hline \end{array}$	$\begin{array}{r} 42804 \\ - 38709 \\ \hline \end{array}$	$\begin{array}{r} 87897 \\ - 58898 \\ \hline \end{array}$	$\begin{array}{r} 34932 \\ - 17983 \\ \hline \end{array}$
------------	--	---	---	---	---

Add.

<b>21.</b>	$\begin{array}{r} 4132 \\ 714 \\ + 304 \\ \hline \end{array}$	$\begin{array}{r} 32015 \\ + 7932 \\ \hline \end{array}$	$\begin{array}{r} 8215 \\ 1730 \\ + 1045 \\ \hline \end{array}$	$\begin{array}{r} 25713 \\ + 13846 \\ \hline \end{array}$	$\begin{array}{r} 3014 \\ 1246 \\ + 710 \\ \hline \end{array}$
------------	---	--	---	---	--

<b>22.</b>	$\begin{array}{r} 83548 \\ + 8162 \\ \hline \end{array}$	$\begin{array}{r} 2315 \\ 1215 \\ 720 \\ + 214 \\ \hline \end{array}$	$\begin{array}{r} 37805 \\ + 12125 \\ \hline \end{array}$	$\begin{array}{r} 7300 \\ 715 \\ 243 \\ + 120 \\ \hline \end{array}$	$\begin{array}{r} 71042 \\ + 8925 \\ \hline \end{array}$
------------	--	---	---	--	--

Estimate each sum or difference.

<b>23.</b>	$\begin{array}{r} 5614 \\ + 3293 \\ \hline \end{array}$	$\begin{array}{r} 26417 \\ + 2815 \\ \hline \end{array}$	$\begin{array}{r} 4932 \\ + 512 \\ \hline \end{array}$	$\begin{array}{r} 108765 \\ + 2046 \\ \hline \end{array}$	$\begin{array}{r} 45059 \\ + 38712 \\ \hline \end{array}$
------------	---	--	--	---	---

<b>24.</b>	$\begin{array}{r} 32564 \\ - 2198 \\ \hline \end{array}$	$\begin{array}{r} 4397 \\ - 2810 \\ \hline \end{array}$	$\begin{array}{r} 39702 \\ - 615 \\ \hline \end{array}$	$\begin{array}{r} 32084 \\ - 18093 \\ \hline \end{array}$	$\begin{array}{r} 9327 \\ - 452 \\ \hline \end{array}$
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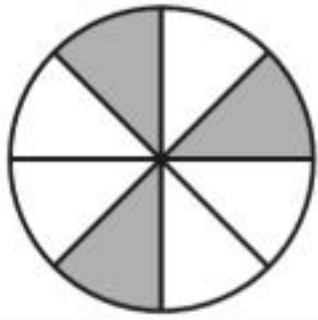


# Check What You Know

## Fractions, Decimals, and Money

What fraction of each figure is shaded?

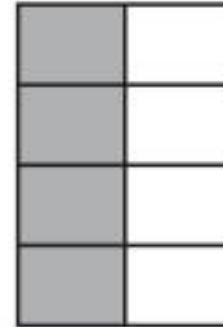
1.



\_\_\_\_\_

a

b



\_\_\_\_\_

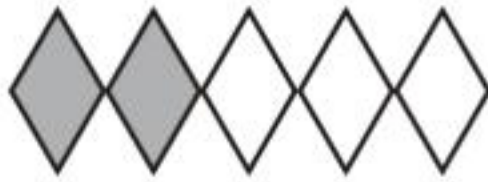
c



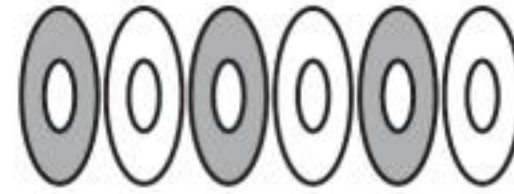
\_\_\_\_\_

What fraction of each set is shaded?

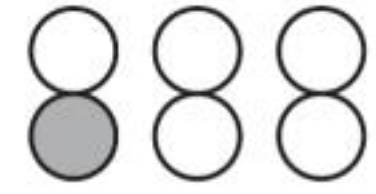
2.



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

Compare each set of fractions. Use  $>$ ,  $<$ , or  $=$ .

3.

$$\frac{3}{4} \text{ _____ } \frac{1}{4}$$

a

$$\frac{1}{2} \text{ _____ } \frac{2}{4}$$

b

$$\frac{7}{8} \text{ _____ } \frac{2}{8}$$

c

$$\frac{2}{8} \text{ _____ } \frac{4}{8}$$

d

Add the fractions.

4.

$$\frac{1}{2} + \frac{1}{2} = \text{_____}$$

$$\frac{3}{8} + \frac{2}{8} = \text{_____}$$

$$\frac{1}{4} + \frac{1}{4} = \text{_____}$$

$$\frac{2}{6} + \frac{1}{6} = \text{_____}$$

Subtract the fractions.

5.

$$\frac{7}{8} - \frac{2}{8} = \text{_____}$$

$$\frac{3}{4} - \frac{2}{4} = \text{_____}$$

$$\frac{2}{7} - \frac{2}{7} = \text{_____}$$

$$\frac{4}{4} - \frac{2}{4} = \text{_____}$$

Add or subtract.

6.

$$\begin{array}{r} 0.31 \\ + 0.20 \\ \hline \end{array}$$

a

$$\begin{array}{r} 0.75 \\ + 0.11 \\ \hline \end{array}$$

b

$$\begin{array}{r} 0.003 \\ + 0.720 \\ \hline \end{array}$$

c

$$\begin{array}{r} \$7.50 \\ + .25 \\ \hline \end{array}$$

d

$$\begin{array}{r} \$1.05 \\ + 1.03 \\ \hline \end{array}$$

e

7.

$$\begin{array}{r} 0.52 \\ - 0.08 \\ \hline \end{array}$$

$$\begin{array}{r} 0.83 \\ - 0.52 \\ \hline \end{array}$$

$$\begin{array}{r} \$15.23 \\ - 7.17 \\ \hline \end{array}$$

$$\begin{array}{r} \$125.13 \\ - 50.00 \\ \hline \end{array}$$

$$\begin{array}{r} 0.503 \\ - 0.410 \\ \hline \end{array}$$



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# Lesson 7.3 Comparing Fractions

These fractions have the same denominators.

To find which fraction is larger, look at the numerator.

4 is greater than 3 so  $3 < 4$ .

$$\frac{3}{6} < \frac{4}{6}$$

Use  $>$ ,  $<$ , or  $=$  to compare the fractions.

1.                      **a**                      **b**                      **c**                      **d**

$$\frac{3}{12} \text{ — } \frac{2}{12} \qquad \frac{3}{4} \text{ — } \frac{1}{4} \qquad \frac{5}{8} \text{ — } \frac{6}{8} \qquad \frac{1}{2} \text{ — } \frac{1}{2}$$

2.                       $\frac{2}{3} \text{ — } \frac{1}{3}$                        $\frac{2}{10} \text{ — } \frac{4}{10}$                        $\frac{5}{8} \text{ — } \frac{3}{8}$                        $\frac{11}{12} \text{ — } \frac{10}{12}$

3.                       $\frac{4}{5} \text{ — } \frac{4}{5}$                        $\frac{7}{12} \text{ — } \frac{8}{12}$                        $\frac{6}{10} \text{ — } \frac{5}{10}$                        $\frac{3}{4} \text{ — } \frac{2}{4}$

4.                       $\frac{8}{12} \text{ — } \frac{6}{12}$                        $\frac{4}{5} \text{ — } \frac{4}{5}$                        $\frac{2}{4} \text{ — } \frac{1}{4}$                        $\frac{5}{8} \text{ — } \frac{7}{8}$



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**Lesson 7.7** Problem Solving**SHOW YOUR WORK**

Solve each problem.

1. Three sisters were told to wash the family car. Paula washed the front  $\frac{1}{3}$  and Kelley washed the back  $\frac{1}{3}$  of the car. Their sister Mandy didn't show up to wash her part of the car. How much of the car was washed?

\_\_\_\_\_ of the car was washed.

1.

2. Autumn has  $\frac{3}{4}$  of a bag of apples to feed her horses. If she feeds  $\frac{2}{4}$  of the apples to her favorite horse, how much of the bag is left to feed the other horses?

\_\_\_\_\_ of a bag of apples is left for the other horses.

2.

3. The library received  $\frac{3}{5}$  of its book order. The next day, it received  $\frac{1}{5}$  of the order. How much of the book order does the library have?

The library has \_\_\_\_\_ of the book order.

3.

4. A group of friends went to the movies. In the lobby,  $\frac{4}{8}$  of the group decided to see a comedy and  $\frac{2}{8}$  decided to see a mystery. How much of the group wanted to see either a comedy or a mystery?

\_\_\_\_\_ of the group wanted to see a comedy or a mystery.

4.

5. In the school cafeteria,  $\frac{2}{7}$  of the students were fourth-graders and  $\frac{3}{7}$  of the students were fifth-graders. How many students were from the fourth and fifth grades?

\_\_\_\_\_ of the students were from the fourth and fifth grades.

5.

6.

6. Koko has  $\frac{1}{6}$  of her homework done. If she does another  $\frac{4}{6}$  of her homework, how much of it will she have completed?

Koko will have completed \_\_\_\_\_ of her homework.



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**Lesson 7.11****Adding and Subtracting Money**

Align

$$\begin{array}{r} \$13.45 \\ - 13.32 \\ \hline \$0.13 \end{array}$$

Add and subtract money the same way you add and subtract decimals. Align decimal points, and then add or subtract.

Align

$$\begin{array}{r} \$1032.35 \\ + 110.32 \\ \hline \$1142.67 \end{array}$$

**Add.**

**1.**

<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>	<b>e</b>
$\begin{array}{r} \$13.18 \\ + 7.23 \\ \hline \end{array}$	$\begin{array}{r} \$13.2 \\ + 1.28 \\ \hline \end{array}$	$\begin{array}{r} 72\text{¢} \\ + 25\text{¢} \\ \hline \end{array}$	$\begin{array}{r} 35\text{¢} \\ + 21\text{¢} \\ \hline \end{array}$	$\begin{array}{r} \$10.42 \\ + 1.38 \\ \hline \end{array}$

**2.**

$\begin{array}{r} 52\text{¢} \\ 25\text{¢} \\ + 10\text{¢} \\ \hline \end{array}$	$\begin{array}{r} \$10.75 \\ 5.35 \\ + 2.10 \\ \hline \end{array}$	$\begin{array}{r} \$1325.18 \\ 867.45 \\ + \phantom{000} \\ \hline \end{array}$	$\begin{array}{r} \$3.05 \\ + 2.98 \\ \hline \end{array}$	$\begin{array}{r} 75\text{¢} \\ 30\text{¢} \\ + 25\text{¢} \\ \hline \end{array}$
---	--	---	---	---

**3.**

$\begin{array}{r} \$596.75 \\ + 13.30 \\ \hline \end{array}$	$\begin{array}{r} \$73.89 \\ + 23.75 \\ \hline \end{array}$	$\begin{array}{r} \$600.15 \\ + 300.17 \\ \hline \end{array}$	$\begin{array}{r} \$5617.52 \\ + 730.61 \\ \hline \end{array}$	$\begin{array}{r} \$105.88 \\ + 92.72 \\ \hline \end{array}$
--	---	---	--	--

**Subtract.**

**4.**

$\begin{array}{r} \$615.38 \\ - 16.15 \\ \hline \end{array}$	$\begin{array}{r} 98\text{¢} \\ - 43\text{¢} \\ \hline \end{array}$	$\begin{array}{r} \$105.17 \\ - 9.37 \\ \hline \end{array}$	$\begin{array}{r} \$5680.18 \\ - 3127.15 \\ \hline \end{array}$	$\begin{array}{r} 85\text{¢} \\ - 52\text{¢} \\ \hline \end{array}$
--	---	---	---	---

**5.**

$\begin{array}{r} \$99.99 \\ - 10.98 \\ \hline \end{array}$	$\begin{array}{r} \$29.85 \\ - 18.76 \\ \hline \end{array}$	$\begin{array}{r} \$42.05 \\ - 18.98 \\ \hline \end{array}$	$\begin{array}{r} 33\text{¢} \\ - 17\text{¢} \\ \hline \end{array}$	$\begin{array}{r} \$4176.00 \\ - 3042.05 \\ \hline \end{array}$
---	---	---	---	---

**6.**

$\begin{array}{r} \$313.78 \\ - 177.00 \\ \hline \end{array}$	$\begin{array}{r} \$1.19 \\ - 0.32 \\ \hline \end{array}$	$\begin{array}{r} \$27.98 \\ - 18.37 \\ \hline \end{array}$	$\begin{array}{r} \$1413.08 \\ - 852.18 \\ \hline \end{array}$	$\begin{array}{r} \$784.35 \\ - 518.75 \\ \hline \end{array}$
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# Check What You Know

## Customary Measurement

Complete the following.

**a**

1. 36 inches = \_\_\_\_\_ yard

2. 1 cup = \_\_\_\_\_ ounces

3. 2 feet = \_\_\_\_\_ inches

4. 3 feet = \_\_\_\_\_ yard

5. 10 pints = \_\_\_\_\_ cups

**b**

8 quarts = \_\_\_\_\_ gallons

1 mile = \_\_\_\_\_ yards

10 cups = \_\_\_\_\_ pints

8 pints = \_\_\_\_\_ quarts

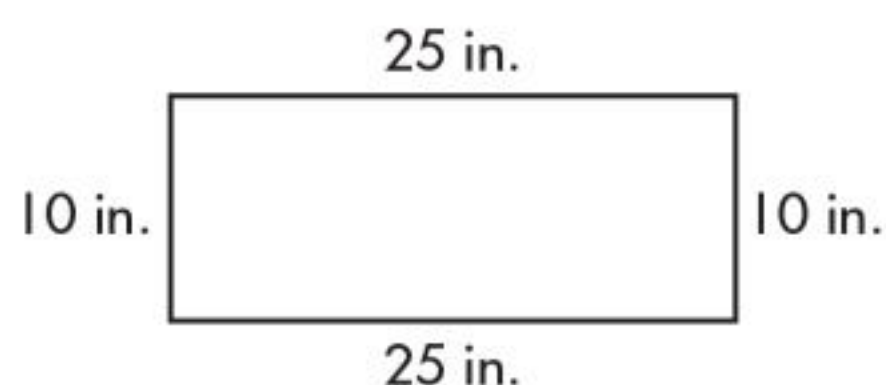
8 cups = \_\_\_\_\_ quarts

Measure each line to the nearest half inch.

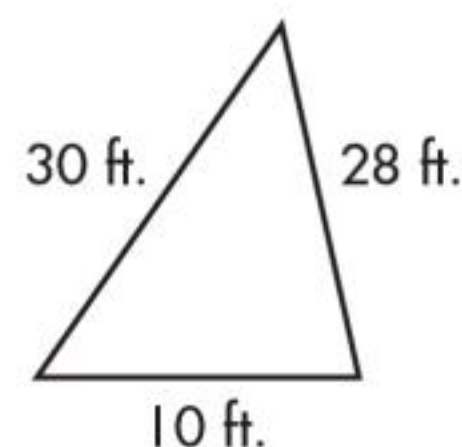
6. \_\_\_\_\_ in. \_\_\_\_\_ in.

7. \_\_\_\_\_ in. \_\_\_\_\_ in.

Find the perimeter of each shape.

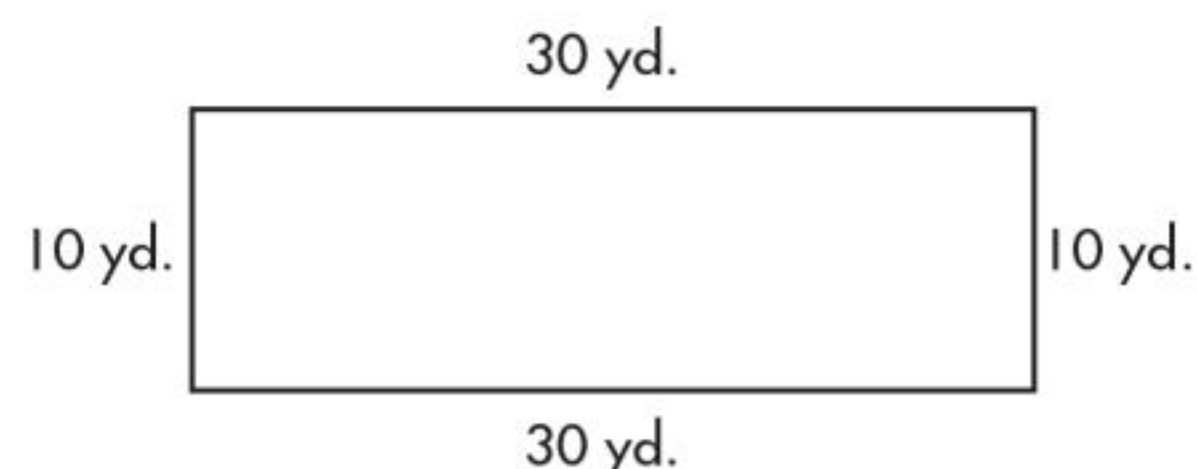
**8.**

\_\_\_\_\_ inches

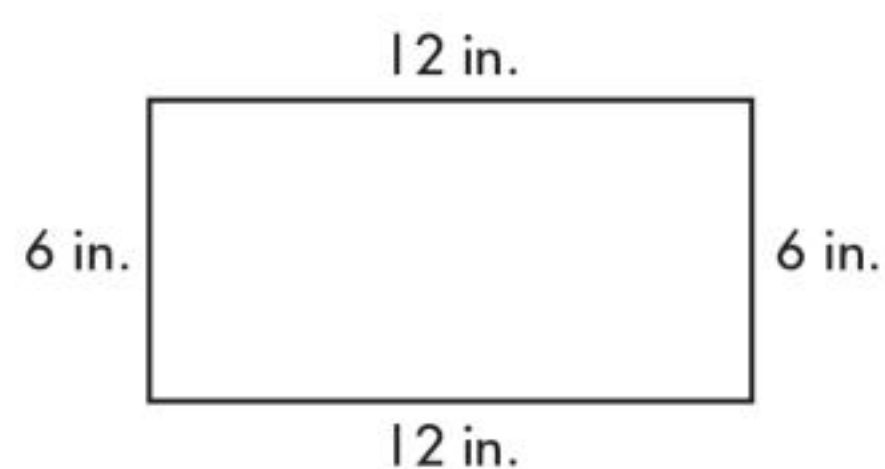


\_\_\_\_\_ feet

Find the area of each shape.

**9.**

\_\_\_\_\_ square yards



\_\_\_\_\_ square inches



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**Lesson 8.3** Problem Solving**SHOW YOUR WORK**

Solve each problem.

- 1.** Brandy has a curvy slide that is 5 feet long. How many inches long is the slide?

The slide is \_\_\_\_\_ inches long.

- 2.** Kristi was competing in the long jump. She jumped 9 feet. How many yards did she jump?

She jumped \_\_\_\_\_ yards.

- 3.** The new speedboat measures 25 yards long. How many feet does the speedboat measure?

The speedboat measures \_\_\_\_\_ feet.

- 4.** The longest snake is reported to be 36 feet long. How many yards long is the snake?

The snake is \_\_\_\_\_ yards long.

- 5.** The hot air balloon is about 4 miles away from its landing strip. How many yards away is the balloon?

The hot air balloon is \_\_\_\_\_ yards away.

Estimate your answer and then solve.

- 6.** David's flying disc soared in the wind for 782 feet. About how many yards away did the flying disc go?

Estimate \_\_\_\_\_

The flying disc traveled about \_\_\_\_\_ yards.

- 7.** The longest human chain was 10,560 feet long. About how many miles was the chain?

Estimate \_\_\_\_\_

The chain was about \_\_\_\_\_ miles long.

**1.****2.****3.****4.****5.****6.****7.**



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**Check What You Learned****Customary Measurement**

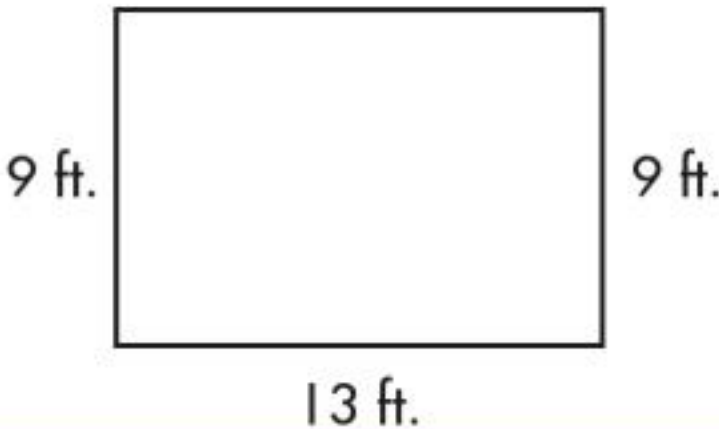
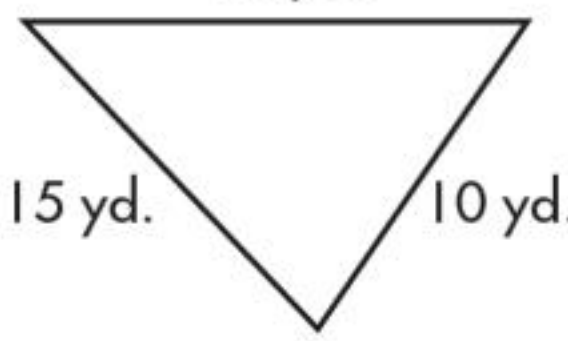
Find the length of each line.

1. \_\_\_\_\_ in. <sup>a</sup> \_\_\_\_\_ in. <sup>b</sup>
2. \_\_\_\_\_ in. \_\_\_\_\_ in.

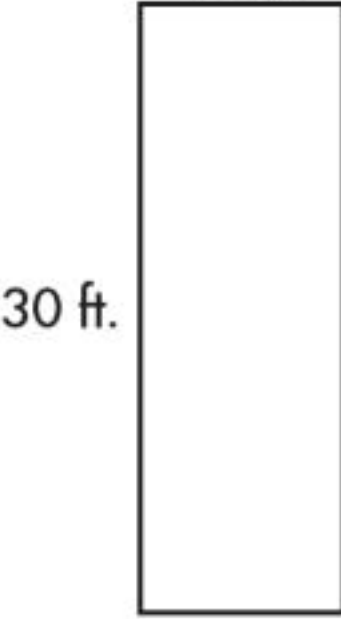

Complete the following.

3. 4 ft. = \_\_\_\_\_ in. <sup>a</sup> 5 lb. = \_\_\_\_\_ oz. <sup>b</sup> 2 T. = \_\_\_\_\_ lb. <sup>c</sup>
4. 4 qt. = \_\_\_\_\_ gal. 72 oz. = \_\_\_\_\_ c. 15 yd. = \_\_\_\_\_ ft.
5. 5,280 yd. = \_\_\_\_\_ mi. 17 pt. = \_\_\_\_\_ c. 80 oz. = \_\_\_\_\_ lb.

Find the perimeter of each shape.

6. <sup>a</sup>  \_\_\_\_\_ ft.
- <sup>b</sup>  \_\_\_\_\_ yd.

Find the area of each shape.

7.  \_\_\_\_\_ sq. ft.
-  \_\_\_\_\_ sq. in.



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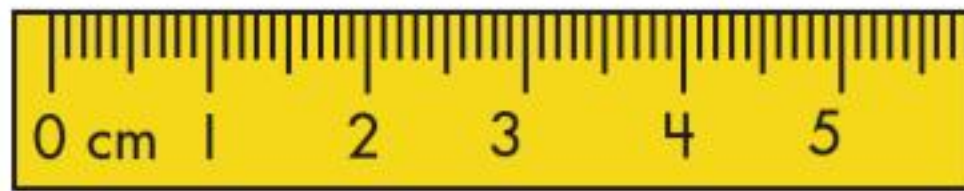


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# Lesson 9.1 Measuring in Centimeters



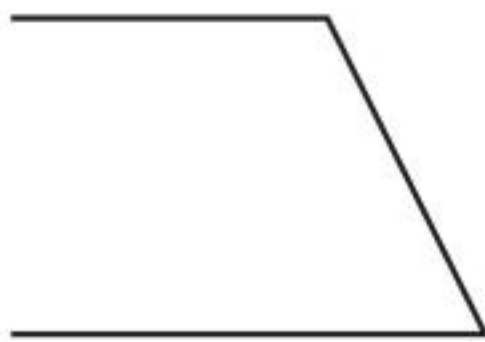
The straw is about 5 centimeters (cm) long.



The stamp is about 2 centimeters long.

Use a ruler and pencil to finish the shape. Find the length of the missing side in centimeters.

1.

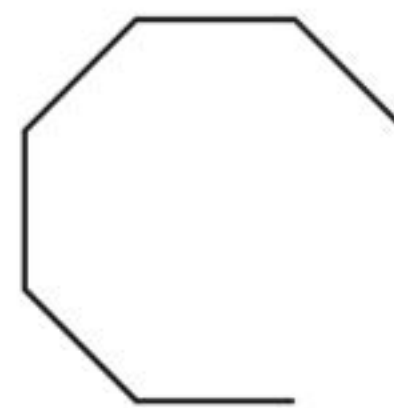
**a**

\_\_\_\_\_ cm

2.



\_\_\_\_\_ cm

**b**

\_\_\_\_\_ cm



\_\_\_\_\_ cm

Find the length of each line segment to the nearest centimeter.

3.



\_\_\_\_\_ cm



\_\_\_\_\_ cm

4.



\_\_\_\_\_ cm



\_\_\_\_\_ cm

Use a ruler to draw a line segment for each measurement.

5. 2 centimeters

6. 6 centimeters

7. 12 centimeters

8. 7 centimeters



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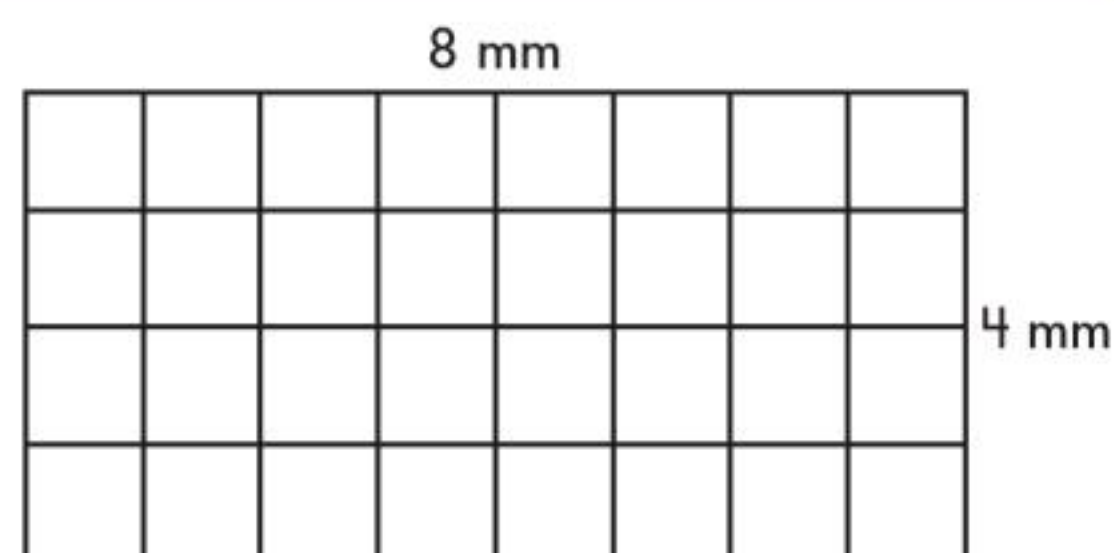
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# Lesson 9.6 Measuring Area

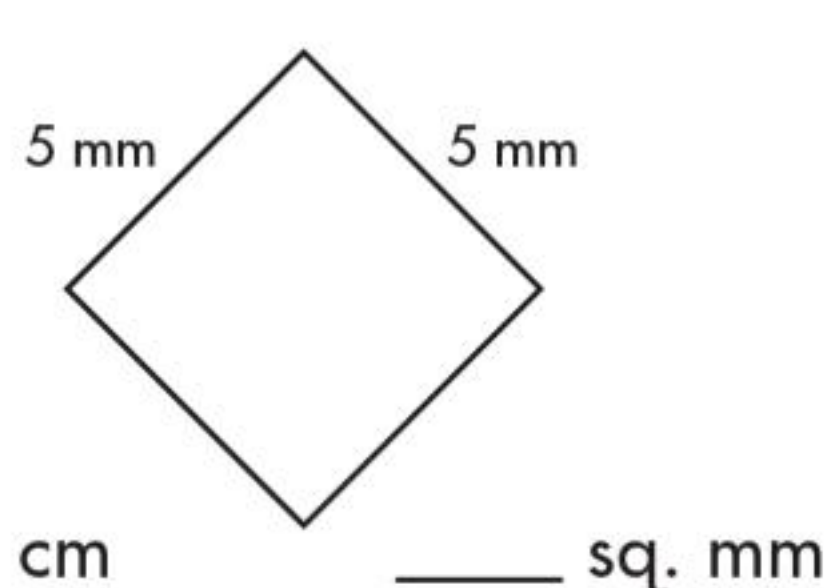
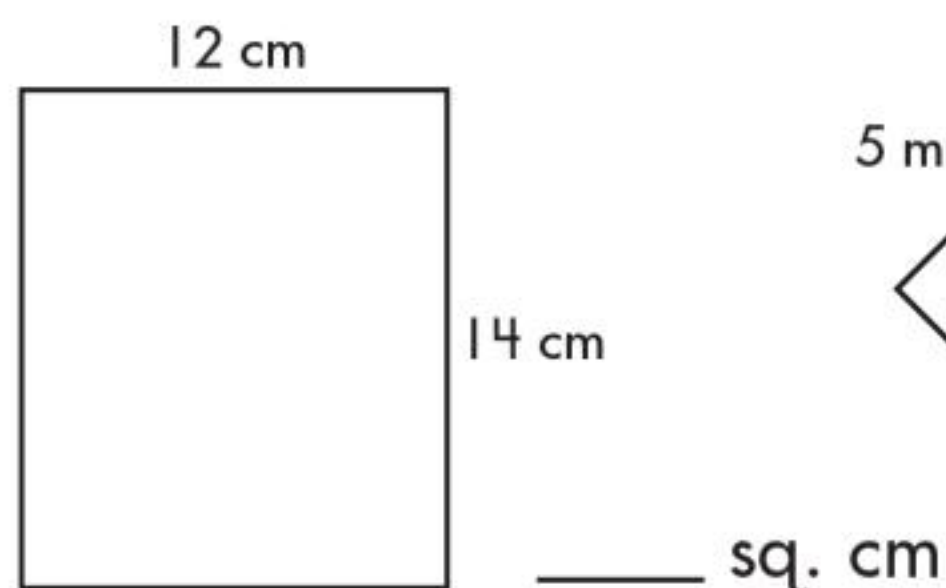
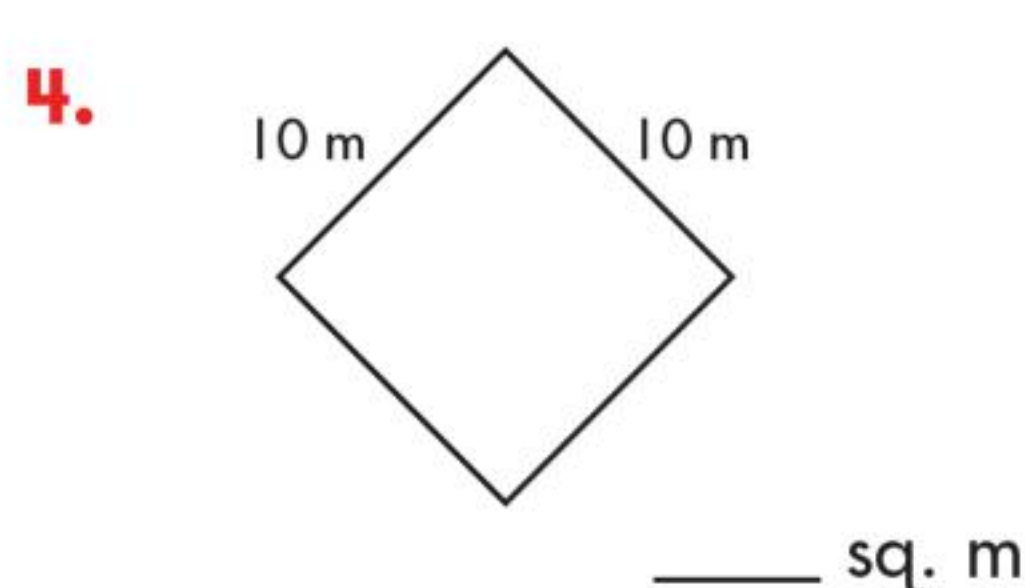
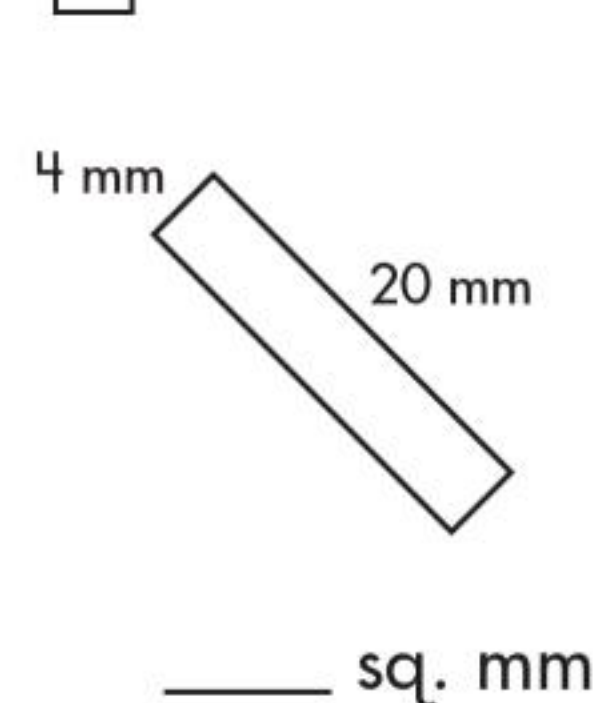
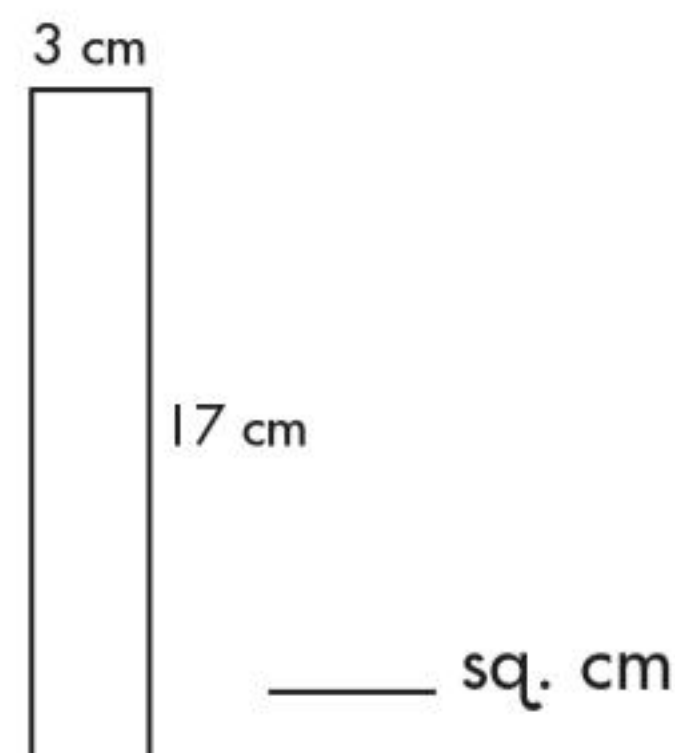
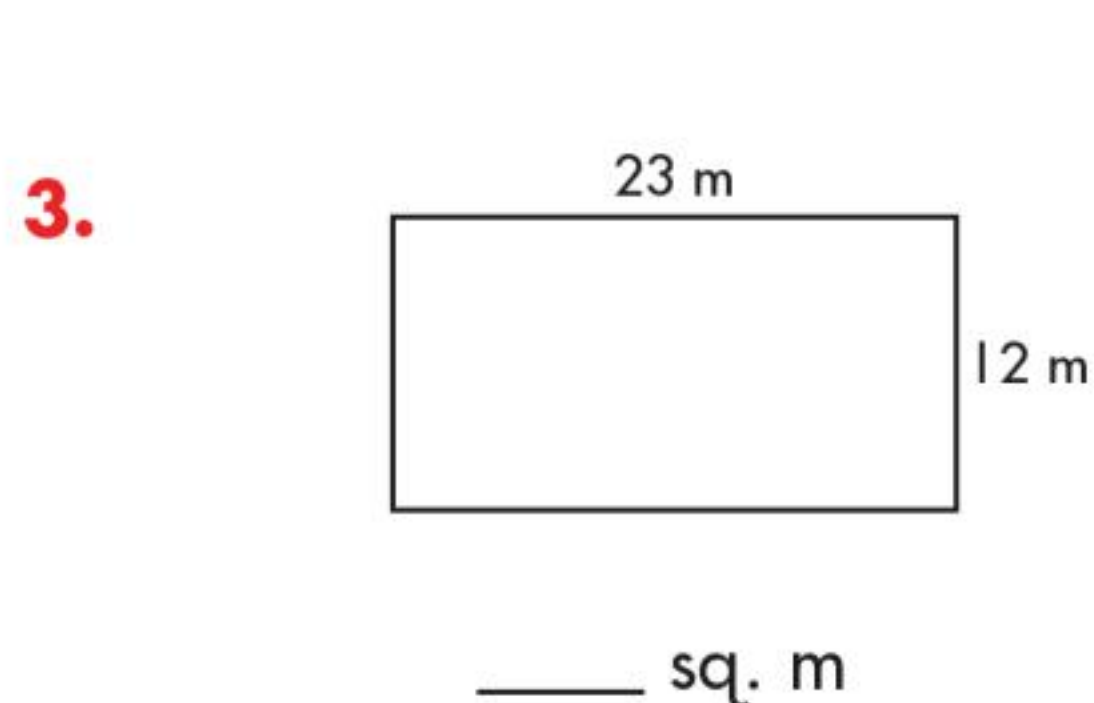
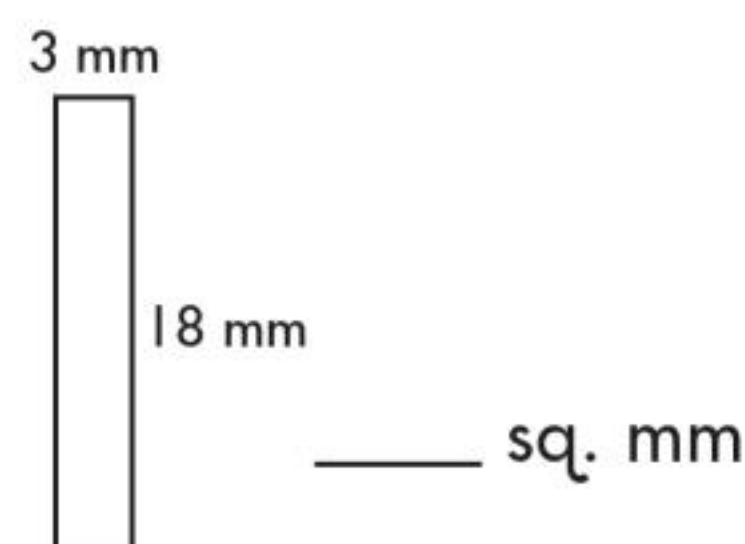
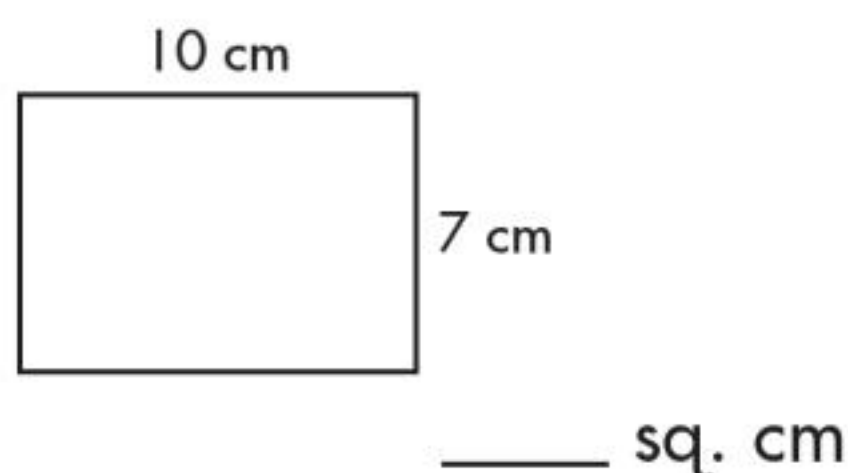
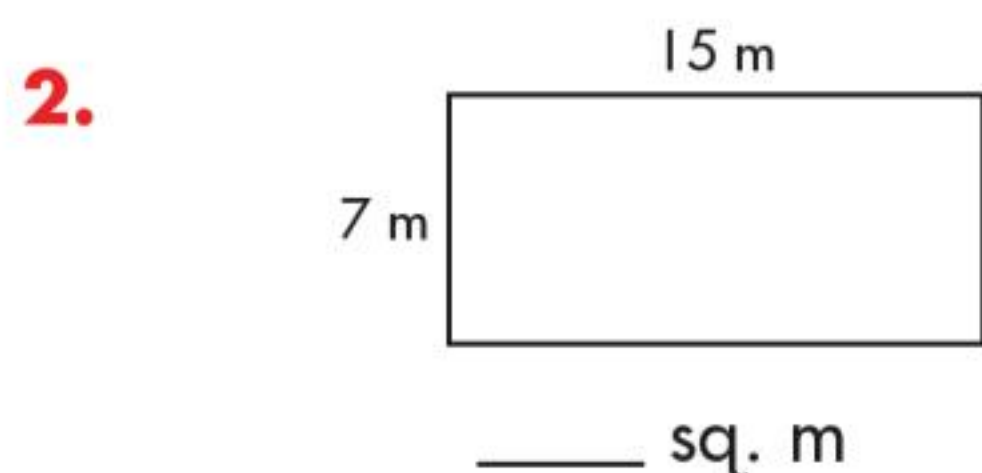
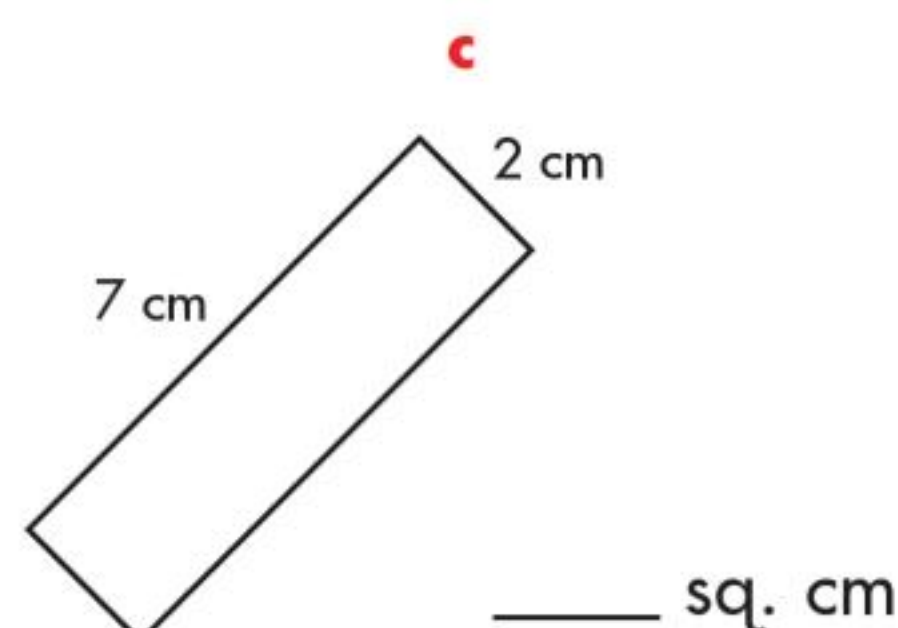
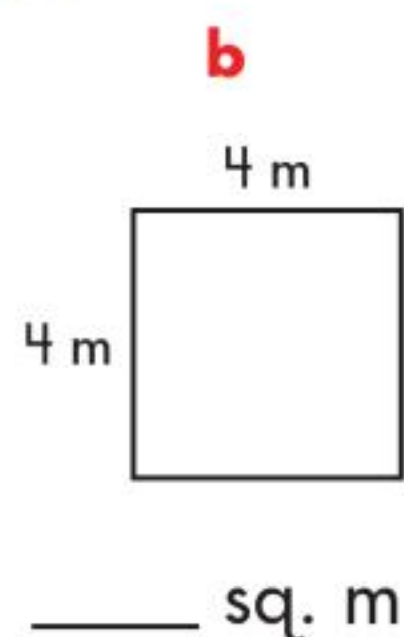
**Area** is the measurement of a surface.

To find the area of a square or a rectangle, multiply length by width.

The area of this rectangle is 32 square millimeters.



Find the area of each square or rectangle.





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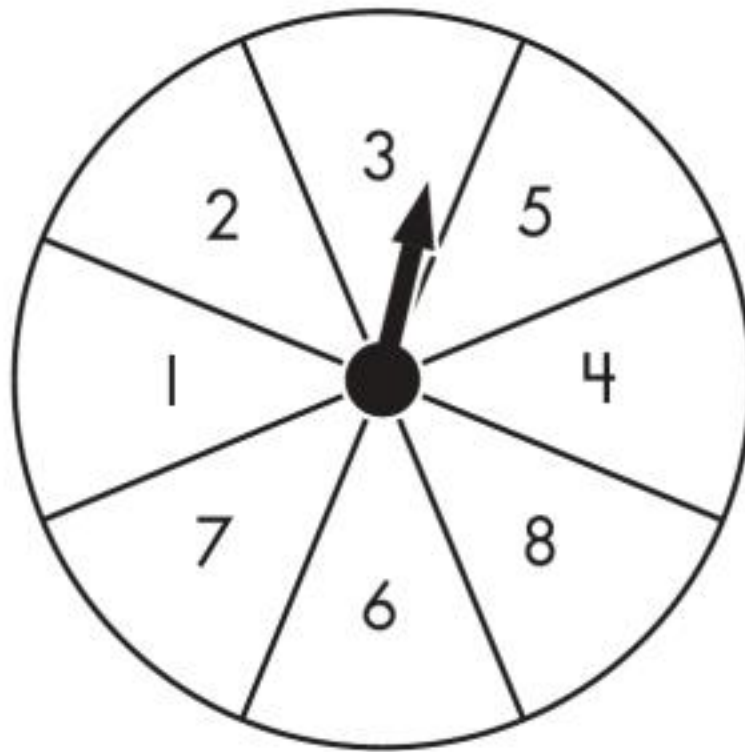


# Check What You Know

## Graphs and Probability

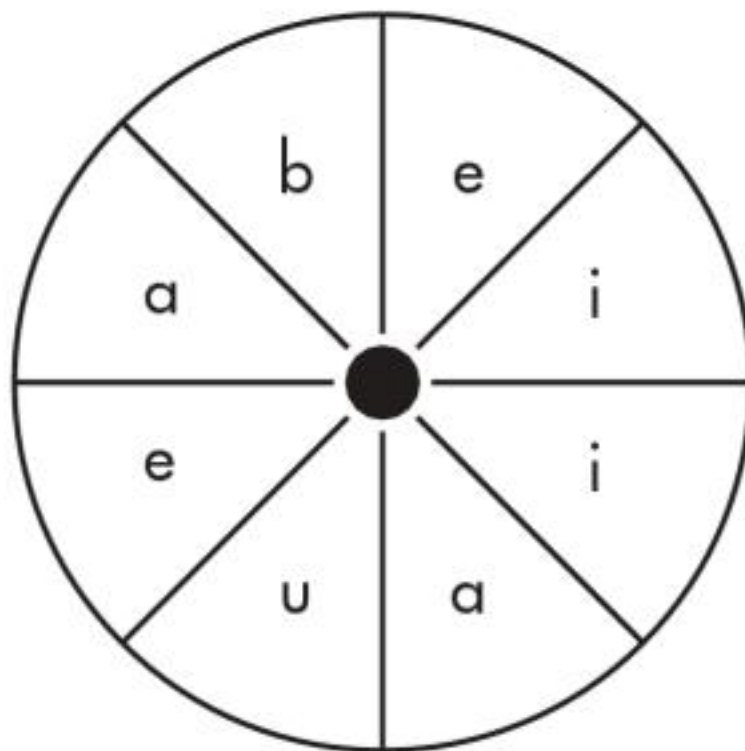
Find the probability of each event.

9. What is the probability of spinning an **8** on this wheel?



The probability of spinning an 8 is \_\_\_\_\_.

10. What is the probability of spinning an **i** on this wheel?



The probability of spinning an **i** is \_\_\_\_\_.

**SHOW YOUR WORK**

Solve the problem.

11. In a bag of 15 candy bars, there are 5 chocolate, 5 vanilla, and 5 strawberry candy bars. What is the probability of picking out a vanilla candy bar?

The probability of picking out a vanilla candy bar is \_\_\_\_\_.

11.



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**Lesson 10.3** Problem Solving**SHOW YOUR WORK**

Solve each problem.

1. In a raffle, there are 35 chances to win. If Charles buys 10 chances, what is the probability that Charles will win?

The probability is \_\_\_\_\_.

2. All members of the gym class put their names in a jar. The coach selected 4 teams of equal size for dodgeball. What is the probability that Dante will get onto his friend's team?

The probability is \_\_\_\_\_.

3. Heather and 14 friends rushed the table to get a slice of their favorite cheesecake. There are 3 slices left. Assume that all the girls have an equal chance of getting a piece of cake. What is the probability that Heather might get a slice of cheesecake? What is her chance of getting a slice: certain, likely, unlikely, or impossible?

The probability is \_\_\_\_\_.

Heather's chances are \_\_\_\_\_.

4. Isabella put 100 marbles in a jar and shook the jar. There are 4 colors of marbles. There are 25 of each color. What is the probability that Isabella will pick a marble out of the jar that is in her favorite color? Are her chances certain, likely, unlikely, or impossible?

The probability is \_\_\_\_\_.

Isabella's chances are \_\_\_\_\_.

1.

2.

3.

4.



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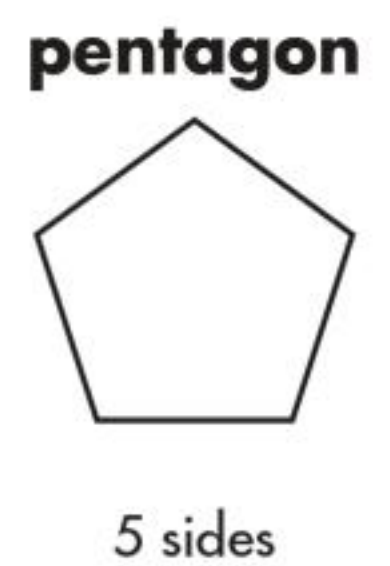
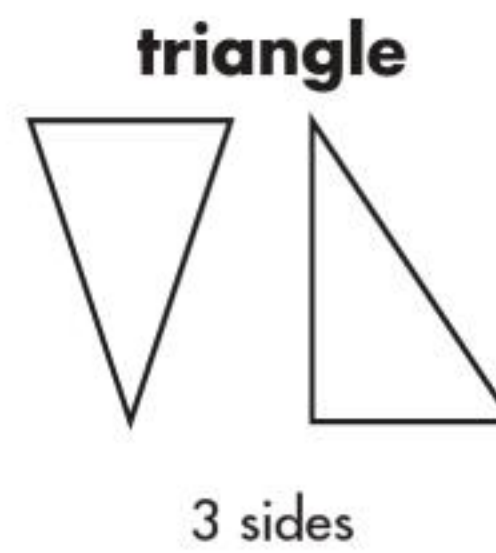
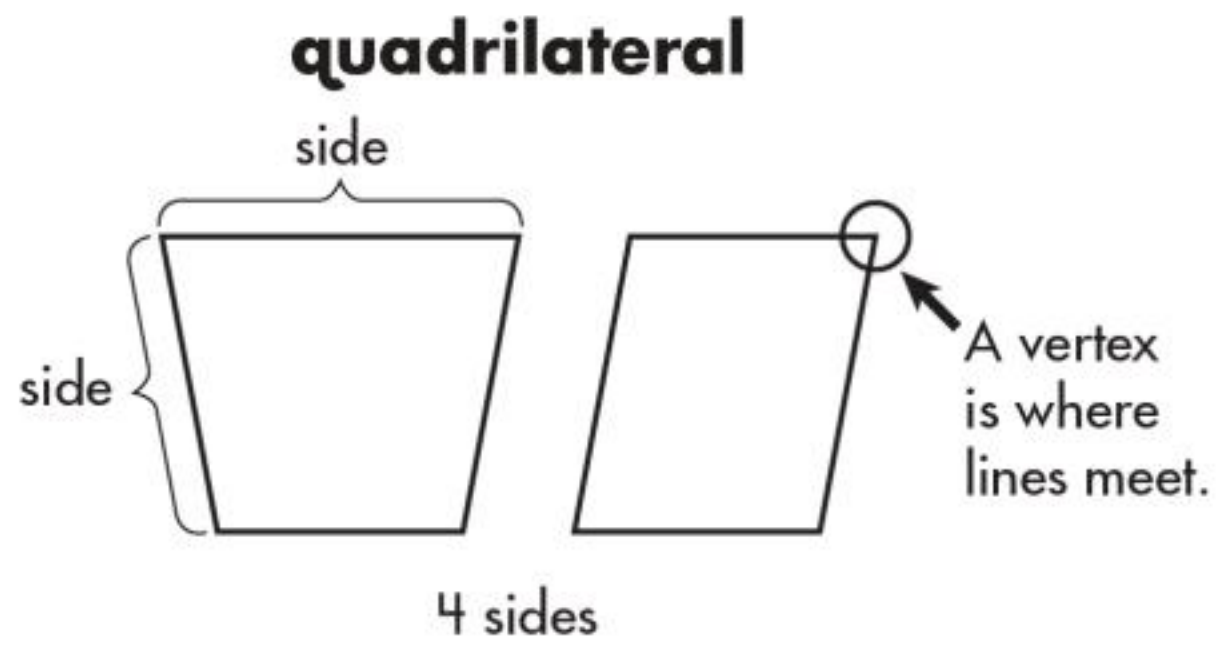
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# Lesson 11.1 Plane Figures

**Polygons** are closed plane figures. They have 3 or more straight sides.



**hexagon**



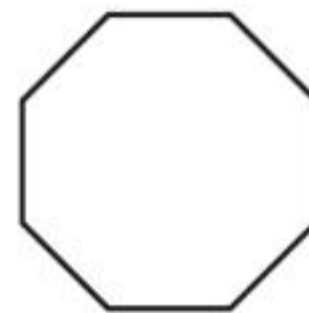
6 sides

**heptagon**



7 sides

**octagon**



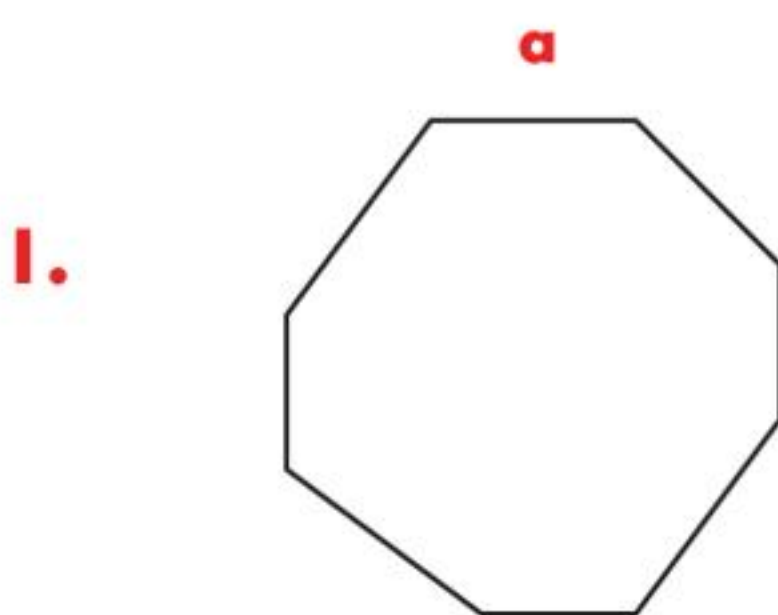
8 sides

**nonagon**

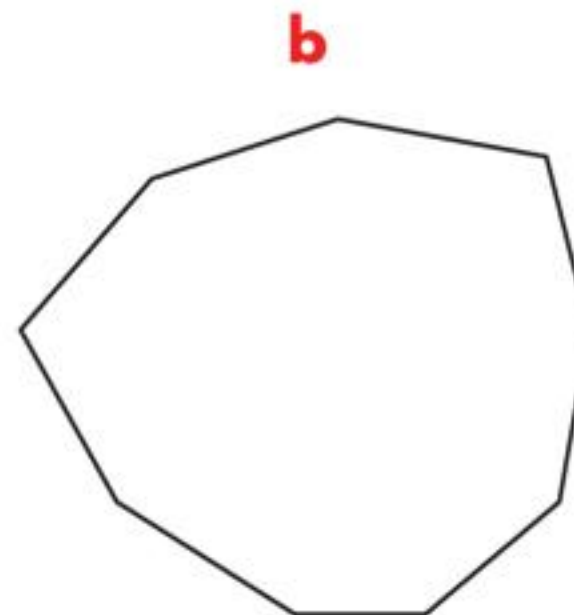


9 sides

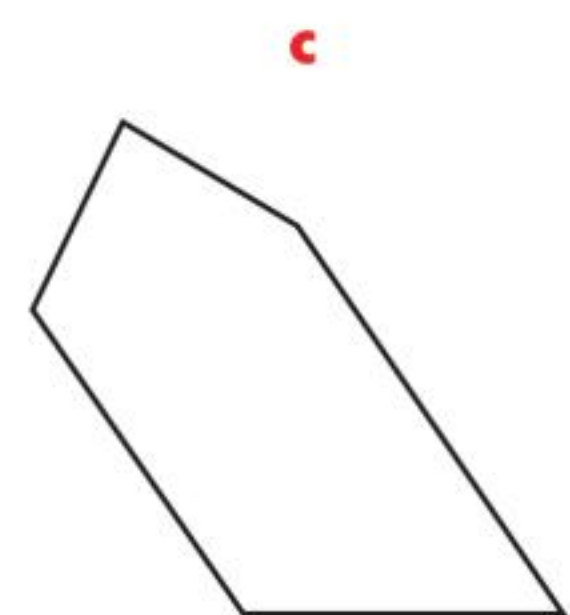
Identify each plane figure as a triangle, quadrilateral, pentagon, hexagon, heptagon, octagon, or nonagon.



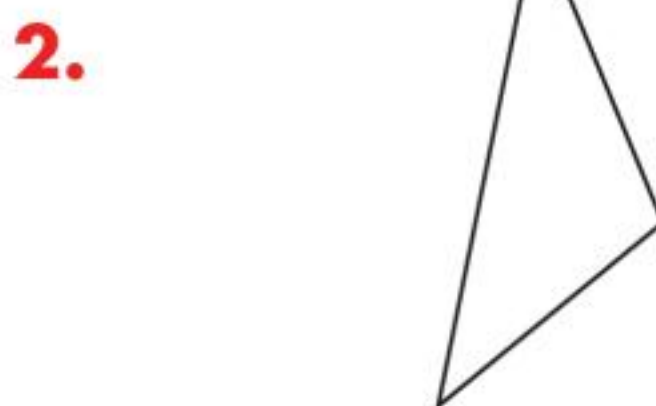
\_\_\_\_\_



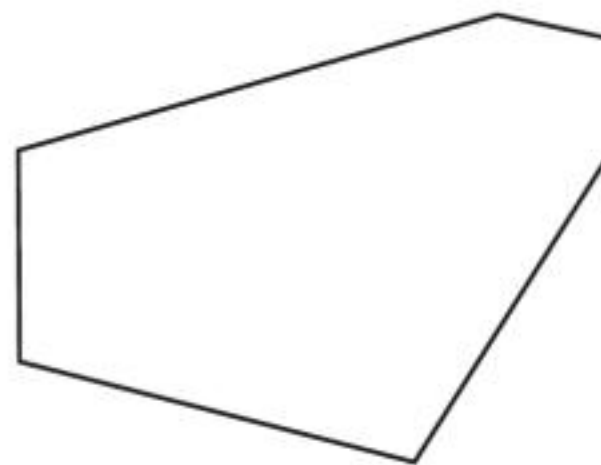
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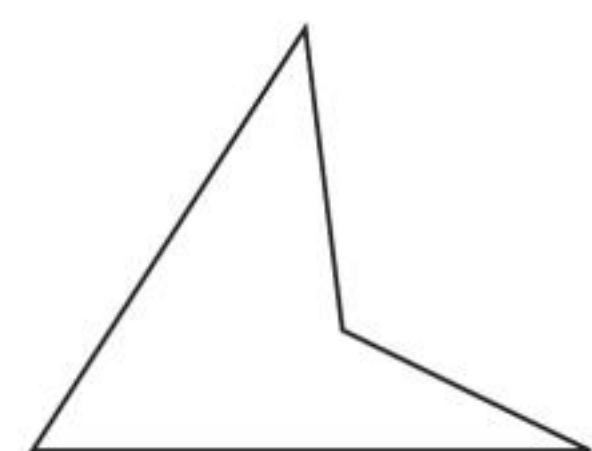
\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



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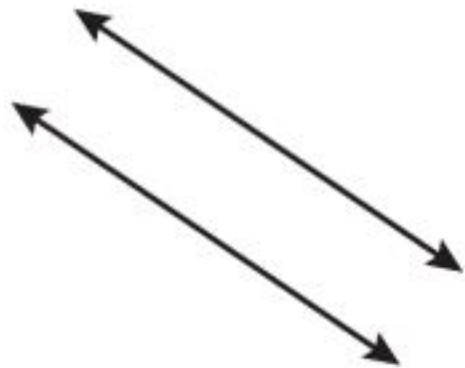


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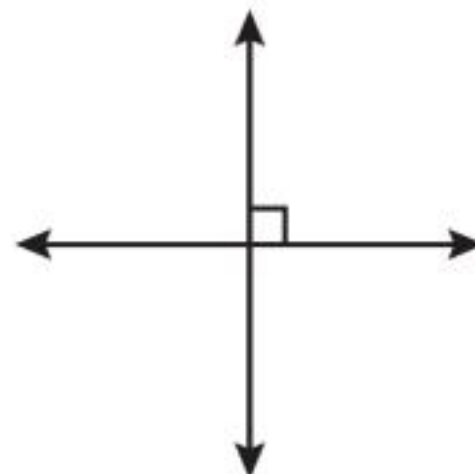


**Lesson 11.7****Parallel and Perpendicular Lines**

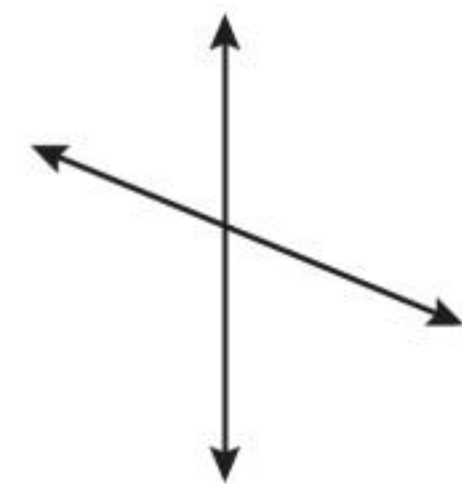
**Parallel** lines never intersect. They are always the same distance apart.



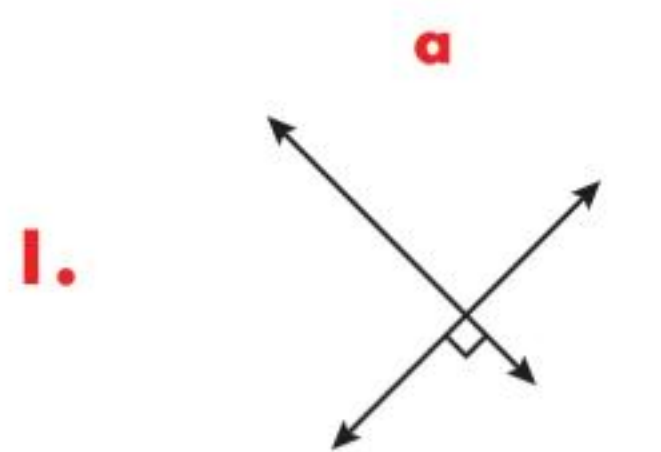
**Perpendicular** lines cross over each other, or intersect, to form right angles.



**Intersecting** lines cross over each other or intersect.



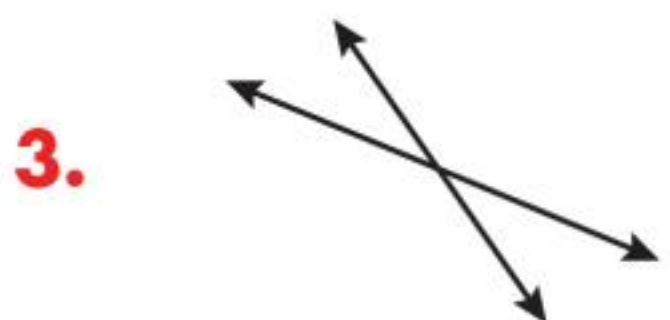
Identify each pair of lines as parallel, perpendicular, or intersecting.



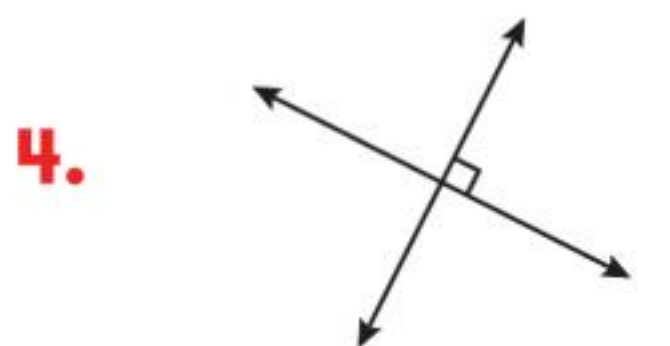
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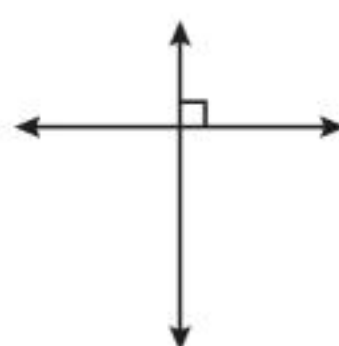
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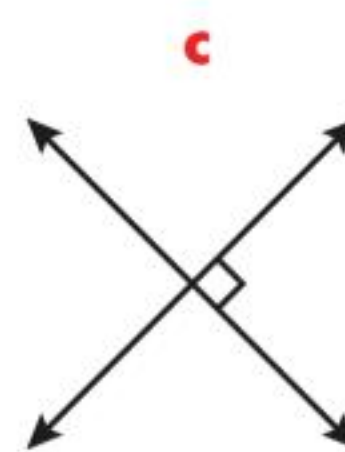
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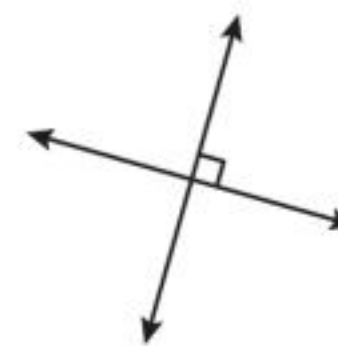
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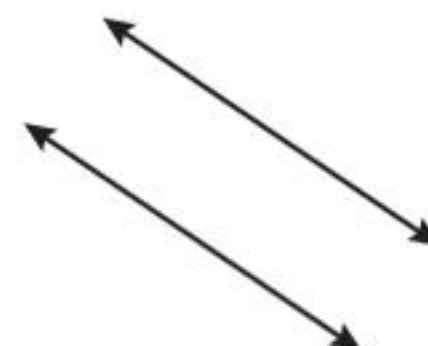
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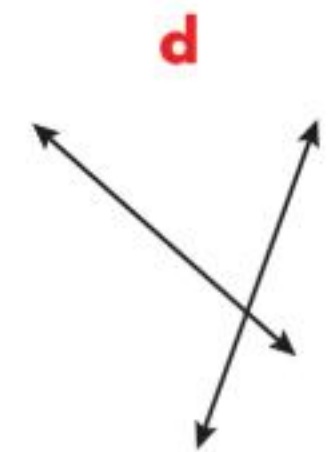
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\_\_\_\_\_



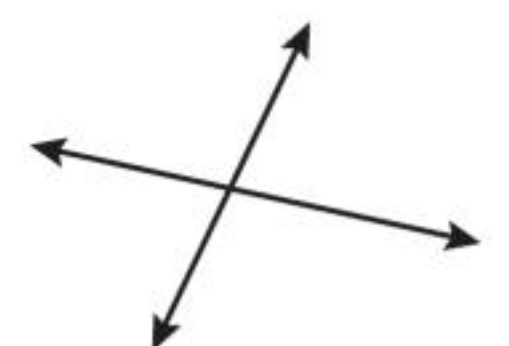
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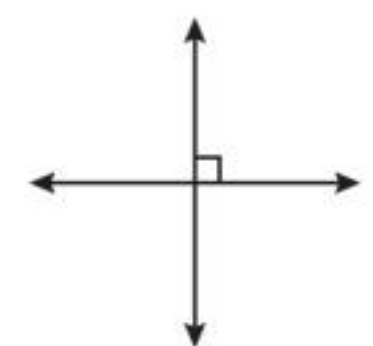
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# Check What You Know

## Preparing for Algebra

Complete the following.

**a**

7.  $6 + 5 = 5 + \square$

**b**

$15 + \square + 16 = 16 + 30 + 15$

**c**

$7 + 3 = 2 + \square$

8.  $25 \times 3 = 3 \times \square$

$2 \times 3 \times 7 = 7 \times 3 \times \square$

$125 \times 3 = 3 \times \square$

**a**

9.  $17 + (10 + \square) = (10 + 17) + 6$

**b**

$6 \times (5 \times 2) = (6 \times 2) \times \square$

10.  $235 + (10 + 375) = (375 + \square) + 10$

$14 \times (2 \times 5) = (14 \times 5) \times \square$

## SHOW YOUR WORK

Solve each problem. Write a number sentence to model each word problem.

11. Rosa needs 3 people to carry away the 75 books she has. Each person should carry the same number of books.

How many books should each person carry?

$\square \text{ } \square = \square$

Each person should carry \_\_\_\_\_ books.

12. Chris's fish collection is growing. He started with 4 fish and now he has 96 fish. How many new fish does he have?

$\square \text{ } \square = \square$

He has \_\_\_\_\_ new fish.

11.

12.



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**Lesson 12.5** Number Sentences

Multiply numbers in parentheses first.

$$\begin{array}{l}
 \swarrow \quad \searrow \\
 2 \times (3 \times 15) = (2 \times 3) \times 15 \\
 2 \times 45 = 6 \times 15 \\
 2 \times (3 \times 15) = (2 \times 3) \times 15
 \end{array}$$

Add numbers in parentheses first.

$$\begin{array}{l}
 \swarrow \quad \searrow \\
 (15 + 2) + 6 = 15 + (2 + 6) \\
 17 + 6 = 15 + 8 \\
 23 = 23 \\
 (15 + 2) + 6 = 15 + (2 + 6)
 \end{array}$$

Find the missing number. Show your work.

**a**

**1.**  $(7 \times 5) \times 2 = (5 \times \boxed{\phantom{00}}) \times 7$

2**b**

$(135 + 30) + 17 = (17 + 30) + \boxed{\phantom{00}}$

135

**2.**  $(190 + 70) + 30 = (30 + 70) + \boxed{\phantom{00}}$

$(77 \times 5) \times 6 = (77 \times 6) \times \boxed{\phantom{00}}$

**3.**  $(25 + 23) + 17 = (17 + 23) + \boxed{\phantom{00}}$

$(25 \times 10) \times 2 = (10 \times 2) \times \boxed{\phantom{00}}$

**4.**  $(1245 + 132) + 50 = (132 + 50) + \boxed{\phantom{00}}$

$(130 \times 3) \times 5 = (3 \times 5) \times \boxed{\phantom{00}}$

**5.**  $(\boxed{\phantom{00}} + 35) + 70 = (70 + 20) + 35$

$(93 \times \boxed{\phantom{00}}) \times 4 = (4 \times 15) \times 93$

**6.**  $(25 + 17) + 3 = (17 + 3) + \boxed{\phantom{00}}$

$175 + (32 + 14) = (175 + 14) + \boxed{\phantom{00}}$



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**Final Test** Chapters 1–12

Determine the place value of the underlined digit in each number.

15. 15.75 \_\_\_\_\_ 12,372 \_\_\_\_\_

16. 72.056 \_\_\_\_\_ 103,728 \_\_\_\_\_

Round each the number to the place of the underlined number.

17. 103,467 \_\_\_\_\_ 1,785,302 \_\_\_\_\_

18. 23,456 \_\_\_\_\_ 575 \_\_\_\_\_

Write  $>$ ,  $<$ , or  $=$  to compare the following.

19. 14.05  $\bigcirc$  14.95    12,700  $\bigcirc$  12,703    164,000  $\bigcirc$  146,000

20. 17.05  $\bigcirc$  17.05    0.008  $\bigcirc$  0.010    0.010  $\bigcirc$  0.100

Estimate each sum or difference.

<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>	<b>e</b>
21. $\begin{array}{r} 5205 \\ - 3800 \\ \hline \end{array}$	$\begin{array}{r} 157321 \\ + 58538 \\ \hline \end{array}$	$\begin{array}{r} 3852 \\ + 28 \\ \hline \end{array}$	$\begin{array}{r} 72550 \\ - 8549 \\ \hline \end{array}$	$\begin{array}{r} 4983 \\ + 3872 \\ \hline \end{array}$

Add or subtract.

<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
22. $\frac{5}{6} + \frac{1}{6} =$ _____	$\frac{7}{12} + \frac{3}{12} =$ _____	$\frac{6}{8} - \frac{4}{8} =$ _____	$\frac{11}{12} - \frac{7}{12} =$ _____

Find an equivalent fraction.

23. $\frac{8}{32} = \frac{\quad}{4}$	$\frac{1}{10} = \frac{\quad}{40}$	$\frac{4}{100} = \frac{1}{\quad}$	$\frac{7}{8} = \frac{49}{\quad}$
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## Scoring Record for Posttests, Mid-Test, and Final Test

Chapter Posttest	Your Score	Performance			
		Excellent	Very Good	Fair	Needs Improvement
1	____ of 65	61–65	53–60	40–52	39 or fewer
2	____ of 62	59–62	51–58	38–50	37 or fewer
3	____ of 45	43–45	37–42	28–36	27 or fewer
4	____ of 48	46–48	39–45	30–38	29 or fewer
5	____ of 56	53–56	46–52	35–45	34 or fewer
6	____ of 31	30–31	26–29	20–25	19 or fewer
7	____ of 40	38–40	33–37	25–32	24 or fewer
8	____ of 23	22–23	19–21	15–18	14 or fewer
9	____ of 34	33–34	28–32	21–27	20 or fewer
10	____ of 13	13	11–12	9–10	8 or fewer
11	____ of 33	32–33	27–31	21–26	20 or fewer
12	____ of 28	27–28	23–26	18–22	17 or fewer
Mid-Test	____ of 182	170–182	147–169	110–146	109 or fewer
Final Test	____ of 156	146–156	126–145	95–125	94 or fewer

Record your test score in the Your Score column. See where your score falls in the Performance columns. Your score is based on the total number of required responses. If your score is fair or needs improvement, review the chapter material.



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# Grade 4 Answers

3.	680	<u>5,437</u>	<u>7,495</u>	<u>9,899</u>	1,980
4.	<u>4,790</u>	<u>3,998</u>	<u>6,737</u>	1,034	<u>6,000</u>
5.	<u>2,503</u>	542	<u>6,408</u>	111	<u>5,905</u>
6.	<u>8,122</u>	1,901	<u>911</u>	<u>6,102</u>	<u>3,967</u>
7.	<u>2,617</u>	<u>2,281</u>	1,163	<u>1,318</u>	22,011
8.	797	5241	320	<u>69,216</u>	<u>9,393</u>

## Pretest, page 28

9. 3,994 10. 25,994 11. 1,398 12. 245  
13. 448

## Lesson 3.1, page 29

	a	b	c	d	e	f
1.	909	750	589	259	788	993
2.	561	408	720	780	598	1,155
3.	983	<u>396</u>	672	<u>810</u>	757	900
4.	980	431	858	1,270	<u>712</u>	309
5.	889	666	543	387	1,300	950
6.	1,014	457	940	584	857	263
7.	1,193	<u>918</u>	<u>1,010</u>	397	<u>1,099</u>	357

## Lesson 3.2, page 30

	a	b	c	d	e	f
1.	911	609	1,133	231	4,796	399
2.	4,498	<u>311</u>	290	<u>3,267</u>	<u>103</u>	1,964
3.	1102	190	6,100	524	101	1,069
4.	<u>7,812</u>	281	910	756	<u>151</u>	1,589
5.	108	<u>2,778</u>	<u>3,482</u>	625	<u>4,444</u>	<u>2,692</u>
6.	223	<u>3,747</u>	<u>5,700</u>	1,251	2613	<u>5,086</u>

## Lesson 3.3, page 31

	a	b	c	d	e
1.	<u>2,897</u>	<u>5,028</u>	<u>4,210</u>	11,042	<u>8,712</u>
2.	<u>5,499</u>	<u>9,229</u>	9,992	4,330	<u>9,006</u>
3.	<u>6,651</u>	<u>4,622</u>	3,748	3,776	<u>4,145</u>
4.	3,771	<u>5,410</u>	4,028	<u>9,095</u>	<u>7,990</u>
5.	<u>5,115</u>	<u>3,791</u>	<u>5,908</u>	<u>9,595</u>	<u>7,760</u>
6.	10,100	<u>7,983</u>	<u>7,090</u>	<u>2,784</u>	<u>9,919</u>
7.	<u>14,702</u>	<u>3,182</u>	<u>8,134</u>	<u>4,881</u>	<u>6,989</u>

## Lesson 3.4, page 32

1. 5,949 2. 7,077 3. 361 4. 131 5. 920  
6. 3,158

## Lesson 3.5, page 33

	a	b	c	d	e
1.	<u>19,115</u>	69,600	33,998	11,123	32,422
2.	65,111	<u>12,990</u>	<u>89,341</u>	<u>13,902</u>	78,921
3.	17	55,198	<u>9,097</u>	<u>8,111</u>	33,690
4.	<u>19,002</u>	34,901	78,064	<u>14,009</u>	10,829
5.	32,899	30,993	<u>11,186</u>	<u>14,219</u>	<u>2,101</u>
6.	<u>4,716</u>	<u>9170</u>	<u>15,000</u>	<u>7,653</u>	<u>7,842</u>
7.	52,108	78,999	11,090	27,680	12,576

## Lesson 3.6, page 34

	a	b	c	d	e
1.	730	910	1,068	707	<u>2,563</u>
2.	<u>13,727</u>	840	<u>9,974</u>	1,252	<u>2,312</u>
3.	<u>3,872</u>	<u>18,280</u>	<u>12,189</u>	<u>16,563</u>	1,966
4.	<u>6,762</u>	<u>17,920</u>	<u>4,594</u>	<u>13,675</u>	<u>8,201</u>
5.	<u>7,199</u>	<u>12,820</u>	<u>9,053</u>	<u>16,661</u>	11,930

## Lesson 3.7, page 35

	a	b	c	d	e
1.	11,557	24,275	<u>9,099</u>	<u>102,380</u>	<u>3,432</u>
2.	29,850	<u>12,598</u>	22,881	<u>10,018</u>	<u>16,516</u>
3.	<u>8,339</u>	48,390	6,889	50,341	91,001
4.	<u>12,065</u>	11,062	78,186	14,807	40,305
5.	<u>3,860</u>	38,900	13,810	65,237	11,099
6.	17,509	<u>8,217</u>	<u>51,510</u>	4,039	30,583

## Lesson 3.8, page 36

1. 8,517 2. 13,300 3. 66,640 4. 4,724  
5. 40,851

## Lesson 3.9, page 37

	a	b	c	d	e
1.	44,113	76,892	68,111	<u>73,107</u>	<u>12,000</u>
2.	<u>2,727</u>	20,038	<u>99,002</u>	<u>4,559</u>	43,663
3.	57,564	47,408	78,012	46,619	<u>8,973</u>
4.	658	3,476	1,730	1,783	9,041
5.	<u>3,556</u>	<u>6,201</u>	<u>1,085</u>	17,191	786
6.	<u>71,359</u>	1,9788	1,765	9,791	2,190
7.	<u>8,421</u>	1,680	49,106	<u>2,096</u>	<u>7,324</u>
8.	57,829	10,038	<u>14,011</u>	1,818	<u>6,884</u>

## Lesson 3.10, page 38

	a	b	c	d	e
1.	<u>7,263</u>	<u>2,470</u>	<u>8,675</u>	<u>15,865</u>	<u>3,507</u>
2.	1,793	<u>19,330</u>	111,175	<u>10,086</u>	208
3.	<u>3,988</u>	42,050	38,966	101	884
4.	<u>6,781</u>	49,059	<u>1,009</u>	250	679
5.	<u>5,163</u>	57,806	791	20,470	<u>2,567</u>
6.	639	25,829	11,819	11,590	<u>7,700</u>
7.	<u>2,075</u>	42,601	<u>4,731</u>	10,389	83,546
8.	10,235	<u>18,354</u>	<u>6,566</u>	<u>7,725</u>	<u>13,906</u>

## Lesson 3.11, page 39

	a	b	c	d	e
1.	<u>61,000</u>	<u>14,000</u>	1,800	80,000	40,000
2.	<u>13,000</u>	40,000	69,000	1,500	<u>6,200</u>
3.	<u>7,000</u>	110,000	<u>5,000</u>	80,000	59,000
4.	20,000	<u>6,400</u>	1,000	<u>8,000</u>	40,000
5.	0	<u>3,600</u>	48,000	1,000	20,000
6.	1,300	25,600	<u>13,400</u>	60,000	100

## Lesson 3.11, page 40

1. 110,000 2. 3,000 3. 14,000 4. 4,700  
5. 4,000 6. 6,000



# Grade 4 Answers

## Posttest, page 41

	a	b	c	d	e
1.	<u>99,013</u>	62,882	1,094	<u>2,600</u>	<u>8,222</u>
2.	26,348	<u>51,609</u>	<u>2,943</u>	<u>13,345</u>	60,012
3.	<u>991</u>	10,050	<u>4,232</u>	111,867	<u>19,991</u>
4.	60,835	1,059	<u>4,024</u>	<u>6,899</u>	28,606
5.	57,818	24,023	659	<u>9,009</u>	<u>18,909</u>
6.	576	337	252	<u>42,753</u>	<u>21,431</u>
7.	56,000	<u>6,000</u>	88,000	<u>8,100</u>	80,000
8.	4500	10,000	79,000	0	<u>6,000</u>

## Posttest, page 42

9. 1,028 10. 1,470 11. 3,185 12. 700  
13. 11,800

## Chapter 4

### Pretest, page 43

	a	b	c	d	e	f
1.	56	75	<u>3,926</u>	255	90	144
2.	14,805	<u>81</u>	4,732	<u>1,056</u>	<u>2,821</u>	744
3.	24,200	1,659	<u>2,200</u>	32	<u>2,691</u>	392
4.	<u>17,250</u>	100	1,588	<u>18,75</u>	121	<u>2,916</u>
5.	<u>41,584</u>	1,936	42	<u>4,62</u>	<u>5,694</u>	<u>12,832</u>
6.	<u>18,312</u>	<u>2,310</u>	64	<u>4,578</u>	29,046	<u>15,000</u>
7.	<u>3,060</u>	<u>4,352</u>	25,839	28,512	535	247
8.	<u>7,416</u>	<u>3,740</u>	<u>5,340</u>	360	<u>4,366</u>	<u>45,000</u>

### Pretest, page 44

9. 250 10. 198 11. 8,000 12. 2,145 13. 50

### Lesson 4.1, page 45

	a	b	c	d	e	f	g	h
1.	<u>9</u>	56	18	35	36	36	<u>7</u>	0
2.	<u>81</u>	<u>12</u>	<u>15</u>	16	<u>49</u>	27	4	<u>9</u>
3.	40	24	16	63	32	<u>21</u>	25	72
4.	<u>1</u>	<u>45</u>	<u>48</u>	42	54	56	<u>21</u>	28
5.	18	0	36	30	14	<u>9</u>	27	<u>48</u>
6.	20	<u>8</u>	<u>10</u>	64	18	42	72	0

### Lesson 4.2, page 46

	a	b	c	d	e	f
1.	<u>46</u>	<u>71</u>	<u>48</u>	66	70	<u>48</u>
2.	88	86	90	88	36	28
3.	<u>99</u>	75	66	90	40	84
4.	<u>77</u>	20	0	39	60	62
5.	20	82	26	80	60	55
6.	30	<u>77</u>	25	0	66	<u>10</u>
7.	0	50	93	36	80	70

### Lesson 4.3, page 47

	a	b	c	d	e	f
1.	292	50	<u>108</u>	260	92	<u>210</u>
2.	38	52	204	270	376	132

3.	288	384	156	<u>136</u>	<u>85</u>	<u>110</u>
4.	198	225	330	<u>171</u>	<u>342</u>	222
5.	165	512	415	343	450	516
6.	360	<u>51</u>	432	225	540	480
7.	279	308	<u>246</u>	288	280	158

### Lesson 4.4, page 48

1. 432 2. 141 3. 368 4. 188 5. 168 6. 115

### Lesson 4.5, page 49

	a	b	c	d	e	f
1.	354	1,220	<u>1,120</u>	456	1,400	685
2.	981	474	1,410	1,278	1,740	1,161
3.	1,675	1,330	<u>3,368</u>	1,809	861	972
4.	<u>2,025</u>	944	1,206	<u>2,988</u>	<u>4,900</u>	796
5.	1,956	568	<u>5,632</u>	1,351	738	1,064
6.	<u>4,224</u>	<u>2,253</u>	1,400	1,110	<u>1,818</u>	<u>5,110</u>

### Lesson 4.6, page 50

	a	b	c	d	e	f
1.	726	495	800	<u>713</u>	156	930
2.	861	640	400	651	900	140
3.	968	280	480	900	169	330
4.	770	132	<u>810</u>	288	880	961

### Lesson 4.7, page 51

	a	b	c	d	e	f
1.	418	<u>1,312</u>	1,296	675	960	1,694
2.	<u>1,512</u>	<u>2,496</u>	700	<u>2,310</u>	957	<u>6,300</u>
3.	<u>1,311</u>	324	<u>2,079</u>	<u>1,105</u>	1,936	1,800
4.	<u>851</u>	<u>3,458</u>	1,892	221	1,496	<u>2,090</u>

### Lesson 4.8, page 52

	a	b	c	d	e	f
1.	<u>9,450</u>	22,134	<u>6,027</u>	<u>16,940</u>	<u>6,270</u>	<u>13,821</u>
2.	<u>4,480</u>	4508	<u>61,916</u>	26,016	24,160	<u>6,750</u>
3.	47,771	37,800	<u>14,256</u>	29,754	59,711	<u>31,836</u>
4.	<u>9,125</u>	<u>21,886</u>	<u>14,784</u>	<u>9,708</u>	44,895	38,014

### Lesson 4.9, page 53

	a	b	c	d	e	f
1.	729	92	441	66	702	282
2.	720	<u>180</u>	156	88	365	696
3.	1,395	609	4,120	450	<u>6,419</u>	4,266
4.	1,032	1,236	990	4,218	<u>8,100</u>	<u>5,312</u>
5.	<u>2,736</u>	1,127	544	<u>2,700</u>	588	<u>2,176</u>
6.	486	1,760	<u>3,311</u>	1,560	323	1,296

### Lesson 4.10, page 54

1. 96 2. 396 3. 750 4. 825 5. 120 6. 80

### Posttest, page 55

- 1a. 288 1b. 192 1c. 678 1d. 272  
1e. 1,350 1f. 666 1g. 186  
2a. 484 2b. 512 2c. 217 2d. 6,300



# Grade 4 Answers

- 2e. 63 2f. 4844 2g. 720  
 3a. 56 3b. 728 3c. 66 3d. 4347  
 3e. 5400 3f. 316 3g. 4501  
 4a. 1486 4b. 4390 4c. 2691 4d. 5658  
 4e. 48 4f. 1800 4g. 22200  
 5a. 1722 5b. 3732 5c. 1296 5d. 132  
 5e. 21294 5f. 2565 5g. 6001  
 6a. 7272 6b. 24366 6c. 6666 6d. 2548  
 6e. 1204 6f. 6110 6g. 22165

## Posttest, page 56

7. 460 8. 252 9. 14880 10. 750 11. 805  
 12. 180

## Chapter 5

### Pretest, page 57

	a	b	c	d	e
1.	5	7	3	9	3
2.	6	6	9	8	5
3.	9	4	8	5	9
4.	2	7	4	3	6
5.	3	7	6	4	7
6.	6	8	4	8	3
7.	9	8	5	1	0
8.	7	4	9	7	6
9.	9	9	7	1	4
10.	5	7	8	2	3

### Pretest, page 58

11. 6 12. 8 13. 4 14. 6 15. 6 16. 2

### Lesson 5.1, page 59

	a	b	c	d	e	f
1.	7	4	9	6	5	7
2.	9	6	9	4	4	7
3.	9	5	6	8	4	5
4.	8	6	5	7	9	8
5.	6	6	8	5	3	3
6.	7	1	3	2	0	2
	a	b	c	d	e	f
7.	5	4	3			9

### Lesson 5.2, page 60

	a	b	c	d	e	f
1.	7	9	6	8	9	7
2.	9	6	8	8	9	8
3.	8	6	1	8	0	9
4.	5	2	3	4	7	9
5.	4	5	5	6	3	4
6.	1	3	6	7	2	5
	a	b	c	d	e	f
7.	7		4			8

### Lesson 5.3, page 61

	a	b	c	d	e	f
1.	8	5	3	8	4	6
2.	3	7	7	6	9	8
3.	7	8	2	6	4	4
4.	5	6	3	5	2	0
5.	1	5	6	7	9	7
	a	b	c	d	e	f
6.	7	8		9		
7.	9	6		6		

### Lesson 5.4, page 62

	a	b	c	d	e
1.	7	4	9	7	6
2.	8	5	9	6	9
3.	6	7	4	6	9
4.	9	4	7	8	9
5.	8	3	4	7	5
6.	8	2	9	0	4

### Lesson 5.5, page 63

1. 8 2. 5 3. 9 4. 4 5. 8 6. 7

### Lesson 5.6, page 64

1. 8 2. 8 3. 5 4. 9 5. 9 6. 2

### Posttest, page 65

	a	b	c	d	e
1.	6	3	1	8	8
2.	8	6	2	3	7
3.	5	8	6	7	4
4.	7	1	3	9	6
5.	4	5	4	7	6
6.	0	8	9	2	7
7.	4	6	8	8	6
8.	5	9	6	7	2
9.	5	7	7	3	8
10.	6	1	4	9	4

### Posttest, page 66

11. 8 12. 3 13. 8 14. 9 15. 7 16. 9

## Chapter 6

### Pretest, page 67

	a	b	c	d	e
1.	21	7r1	71	21	60
2.	30r2	173r2	6r7	10	24r2
3.	9r6	11	25	87r1	300
4.	15	21	130	9r6	22r2
5.	181	20r1	8r6	3r1	45

### Pretest, page 68

6. 2; 4 7. 78 8. 3 9. 15 10. 12 11. 47; 6



# Grade 4 Answers

## Lesson 6.1, page 69

	a	b	c	d	e
1.	5r1	8r2	7r3	9r1	5r5
2.	8r2	5r2	6r1	7r1	6r4
3.	3r3	8r1	3r1	9r1	8r1
4.	2r4	6r1	6r1	4r1	9r2

## Lesson 6.1, page 70

	a	b	c	d	e
1.	18	15r1	11r2	24	13r2
2.	17r1	32	13	12	25
3.	15r3	12	11r1	12r5	11
4.	22	28	38r1	19r2	11r5

## Lesson 6.2, page 71

	a	b	c	d	e
1.	31r1	15	10r7	12r4	11r1
2.	24	12	13	16r1	19r2
3.	37r1	8r2	15r3	11r1	34r1
4.	21r1	12r3	19	11r3	19r2
5.	14r3	11r5	24r1	14r1	12r1

## Lesson 6.2, page 72

6. 8    7. 38    8. 2    9. 7    10. 23 ; 3

## Lesson 6.3, page 73

	a	b	c	d	e
1.	90	93	41r3	43r1	75
2.	92	46r1	62	98r8	21
3.	86r6	45	90r3	73	36r2

## Lesson 6.3, page 74

	a	b	c	d	e
1.	109r1	190r2	157r1	114r3	124r2
2.	311	114	115r1	225r1	150
3.	104	256	101r6	212	127
4.	417r1	176	109r3	126r2	142

## Lesson 6.4, page 75

	a	b	c	d	e
1.	128r5	449	141r2	130r1	324
2.	158r1	183	109r8	128r1	197
3.	105r4	112r1	225r1	174	155
4.	261r1	157r3	160r1	111r3	305
5.	108	190r6	217	325	120

## Lesson 6.4, page 76

6. 15    7. 168 ; 3    8. 58 ; 7    9. 130 ; 3    10. 146

## Posttest, page 77

	a	b	c	d	e
1.	16	107	16r1	12r1	89
2.	30r1	133	111r2	106	111r1
3.	48	29	11r5	14	4r3
4.	9r3	9r1	5r3	9r8	22
5.	201	183r2	127	5r2	24

## Posttest, page 78

6. 22 ; 4    7. 4    8. 123    9. 65    10. 68    11. 17

## Mid-Test

### Page 79

	a	b	c	d	e
1.	25	39	19	39	66
2.	19	74	89	59	79
3.	30	91	81	40	41
4.	43	65	94	81	33
5.	31	72	10	53	32
6.	66	84	9	55	19
7.	69	59	62	82	99
8.	49	93	80	75	65
9.	302	692	209	457	389
10.	889	479	283	462	589

### Page 80

- 11a.  $700 + 30 + 2$   
 11b.  $30,000 + 2000 + 100 + 30 + 2$   
 11c.  $4,000 + 700 + 90$   
 12a.  $1,000 + 3$   
 12b.  $2,000,000 + 300,000 + 10,000 + 4,000 + 700 + 30 + 2$   
 12c.  $3,000 + 1$   
 13. 

a	b	c
13,600	80,000	2,000,000
4,940	400,000	4,020

 15a.  $13,702 > 13,207$     15b.  $3,976 < 9362$   
 15c.  $932 > \text{nine hundred-one}$   
 16a.  $26,314 < 260,314$     16b.  $978 = 978$   
 16c.  $3,721,460 > 3,710,460$

	a	b	c	d	e
17.	875	783	1,088	941	779
18.	3,032	2,350	4,606	9,115	9,810

### Page 81

	a	b	c	d	e
19.	29,014	53,010	31,009	54,002	19,147
20.	8,411	24,810	4,095	28,999	16,949
21.	5,150	39,947	10,990	39,559	4,970
22.	91,710	4,464	49,930	8,378	79,967
23.	9,000	29,000	5,400	111,000	90,000
24.	31,000	1,000	39,100	10,000	9,000

### Page 82

	a	b	c	d	e
25.	56	36	28	48	84
26.	96	28	88	48	80
27.	224	141	168	360	153
28.	336	576	336	175	441



# Grade 4 Answers

	a	b	c	d	e	f
29.	110	242	992	860	500	620
30.	1,875	576	5,412	2,997	1,751	10,716
31.	18,810	16,000	9,353	13,294	46,124	7,581

## Page 83

	a	b	c	d	e
32.	9	8	6	8	6
33.	3	7	4	9	8
34.	110	321	103	121	108
35.	90r4	91r2	105	41r1	438
36.	50r8	115r2	114	316r1	178r1
37.	100r8	255	162	111	74r1

## Page 84

38.	36	39.	60	40.	210	41.	18	42.	80
43.	400								

## Chapter 7

### Pretest, page 85

	a	b	c	d
1.	$\frac{3}{8}$	$\frac{4}{8}$	$\frac{1}{4}$	
2.	$\frac{2}{5}$	$\frac{3}{6}$	$\frac{1}{6}$	
3.	$\frac{3}{4} > \frac{1}{4}$	$\frac{1}{2} = \frac{2}{4}$	$\frac{7}{8} > \frac{2}{8}$	$\frac{2}{8} < \frac{4}{8}$
4.	$\frac{2}{2}$	$\frac{5}{8}$	$\frac{2}{4}$	$\frac{3}{6}$
5.	$\frac{5}{8}$	$\frac{1}{4}$	$\frac{0}{7}$	$\frac{2}{4}$
6.	0.51	0.86	0.723	\$7.75
7.	0.44	0.31	\$8.06	\$75.13
				\$2.08
				0.093

### Pretest, page 86

8.	$\frac{2}{4}$	9.	$\frac{2}{8}$	10.	$\frac{5}{8}$	11.	50¢	12.	\$31.96
13.	\$1.07								

### Lesson 7.1, page 87

	a	b	c
1.	$\frac{1}{3}$	$\frac{2}{4}$	$\frac{5}{8}$
2.	$\frac{5}{10}$	$\frac{4}{5}$	$\frac{1}{2}$
3.	$\frac{2}{4}$	$\frac{1}{2}$	$\frac{1}{3}$

### Lesson 7.2, page 88

	a	b	c
1.	$\frac{3}{10}$	$\frac{2}{5}$	$\frac{3}{6}$
2.	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{4}{8}$
3.	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{2}{5}$

### Lesson 7.3, page 89

	a	b	c	d
1.	$\frac{3}{12} > \frac{2}{12}$	$\frac{3}{4} > \frac{1}{4}$	$\frac{5}{8} < \frac{6}{8}$	$\frac{1}{2} = \frac{1}{2}$
2.	$\frac{2}{3} > \frac{1}{3}$	$\frac{2}{10} < \frac{4}{10}$	$\frac{5}{8} > \frac{3}{8}$	$\frac{11}{12} > \frac{10}{12}$

3.	$\frac{4}{5} = \frac{4}{5}$	$\frac{7}{12} < \frac{8}{12}$	$\frac{6}{10} > \frac{5}{10}$	$\frac{3}{4} > \frac{2}{4}$
4.	$\frac{8}{12} > \frac{6}{12}$	$\frac{4}{5} = \frac{4}{5}$	$\frac{2}{4} > \frac{1}{4}$	$\frac{5}{8} < \frac{7}{8}$

### Lesson 7.4, page 90

	a	b	c	d
1.	$\frac{9}{12}$	$\frac{4}{16}$	$\frac{10}{15}$	$\frac{2}{4}$
2.	$\frac{6}{18}$	$\frac{6}{24}$	$\frac{3}{15}$	$\frac{8}{40}$
3.	$\frac{10}{14}$	$\frac{12}{24}$	$\frac{8}{32}$	$\frac{6}{36}$
4.	$\frac{9}{27}$	$\frac{20}{30}$	$\frac{10}{25}$	$\frac{2}{16}$
5.	15	2	12	18
6.	4	16	24	6
7.	40	15	21	10
8.	8	20	27	9

### Lesson 7.4, page 91

	a	b	c	d
1.	$\frac{1}{5}$	$\frac{4}{8}$	$\frac{1}{3}$	$\frac{1}{5}$
2.	$\frac{1}{6}$	$\frac{4}{5}$	$\frac{1}{5}$	$\frac{4}{5}$
3.	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{1}{3}$	$\frac{1}{9}$
4.	$\frac{2}{5}$	$\frac{5}{6}$	$\frac{1}{2}$	$\frac{2}{3}$
5.	8	3	1	1
6.	9	2	5	4
7.	2	2	1	12
8.	7	5	8	1

### Lesson 7.5, page 92

	a	b	c	d	e
1.	$\frac{11}{12}$	$\frac{3}{5}$	$\frac{5}{6}$	$\frac{3}{4}$	
2.	$\frac{4}{10}$	$\frac{5}{8}$	$\frac{2}{3}$	$\frac{4}{7}$	
3.	$\frac{4}{5}$	$\frac{9}{12}$	$\frac{9}{10}$	$\frac{4}{5}$	
4.	$\frac{5}{8}$	$\frac{7}{12}$	$\frac{2}{6}$	$\frac{3}{6}$	$\frac{2}{8}$
5.	$\frac{8}{12}$	$\frac{7}{7}$	$\frac{9}{10}$	$\frac{4}{5}$	$\frac{11}{12}$
6.	$\frac{8}{11}$	$\frac{2}{4}$	$\frac{2}{2}$	$\frac{6}{7}$	$\frac{4}{9}$

### Lesson 7.6, page 93

	a	b	c	d	e
1.	$\frac{8}{12}$	$\frac{4}{10}$	$\frac{2}{4}$	$\frac{1}{7}$	$\frac{1}{5}$
2.	$\frac{2}{10}$	$\frac{1}{12}$	$\frac{2}{5}$	$\frac{3}{10}$	$\frac{4}{8}$
3.	$\frac{6}{10}$	$\frac{2}{11}$	$\frac{7}{9}$	$\frac{2}{5}$	$\frac{2}{9}$
4.	$\frac{2}{7}$	$\frac{4}{12}$	$\frac{1}{9}$	$\frac{4}{12}$	
5.	$\frac{2}{12}$	$\frac{1}{4}$	$\frac{2}{10}$	$\frac{2}{3}$	
6.	$\frac{4}{8}$	$\frac{1}{7}$	$\frac{3}{12}$	$\frac{7}{10}$	

### Lesson 7.7, page 94

1.	$\frac{2}{3}$	2.	$\frac{1}{4}$	3.	$\frac{4}{5}$	4.	$\frac{6}{8}$	5.	$\frac{5}{7}$	6.	$\frac{5}{6}$
----	---------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------



# Grade 4 Answers

## Lesson 7.8, page 95

	a	b	c	
1.	hundredths	thousands	tenths	
2.	tens	thousandths	tenths	
3.	ones	hundredths	thousandths	
	a	b	c	d
4.	4	1	5	2
5.	4	3	0	1
6.	3	2	5	1

## Lesson 7.8, page 96

	a	b	c	
1.	0.3 or $\frac{3}{10}$	0.7 or $\frac{7}{10}$	0.2 or $\frac{2}{10}$	
	a	b	c	d
2.	0.2	0.6	0.9	0.4
3.	0.03	0.004	0.08	0.005
	a	b	c	
4.	$1.31 > 1.30$	$0.01 < 1.1$	$0.008 < 0.009$	
5.	$1.32 < 1.42$	$1.3 > 1.03$	$0.66 < 0.67$	

## Lesson 7.9, page 97

	a	b	c	d	e
1.	1.00	2.4	2.7	9.8	10.9
2.	10.2	8.6	18.67	23.12	15.15
3.	1.43	100.51	46.70	45.77	183.66
4.	500.62	111.00	562.15	113.35	200.90
5.	0.46	1.80	42.35	72.30	
6.	151.35	466.60	34.56	42.830	

## Lesson 7.10, page 98

	a	b	c	d	e
1.	71.1	30.2	0.15	0.12	2.7
2.	235.11	85.99	1.187	53.326	93.10
3.	21.91	32.169	2.809	80.95	0.019
4.	7.312	28.602	1.199	0.893	1.80
5.	2.794	18.198	2.65	2.596	5.300
6.	2.206	2.195	33.656	56.80	40.81

## Lesson 7.11, page 99

	a	b	c	d	e
1.	\$20.41	\$2.60	97¢	56¢	\$11.80
2.	87¢	\$18.20	\$2192.63	\$6.03	\$1.30
3.	\$610.05	\$97.64	\$900.32	\$6348.13	\$198.60
4.	\$599.23	55¢	\$95.80	\$2553.03	33¢
5.	\$89.01	\$11.09	\$23.07	16¢	\$1133.95
6.	\$136.78	87¢	\$9.61	\$560.90	\$265.60

## Lesson 7.11, page 100

1.	\$7.60	2.	\$580.15	3.	\$1.20	4.	90¢
5.	\$132.15	6.	\$4.75				

## Posttest, page 101

	a	b	c	d	e
1.	$\frac{10}{10}$	$\frac{8}{12}$	$\frac{7}{10}$	$\frac{2}{4}$	$\frac{6}{8}$
2.	0.60	51.83	15.324	\$59.10	74¢
3.	1.4728	\$2,027.56	0.013	1.10	\$80.74
4.	20.070	\$1,298.70	\$1.64	10.110	128.63
5.	247.09	\$55.80	0.004	0.085	\$327.51
6.	$\frac{3}{12}$	$\frac{3}{9}$	$\frac{2}{10}$	$\frac{1}{4}$	$\frac{3}{8}$
7a.	$0.32 > 0.23$	7b.	$\frac{11}{12} > \frac{3}{12}$	7c.	$0.4 = \frac{4}{10}$
7d.	$0.015 < 0.105$				

## Posttest, page 102

8.	26.38	9.	$\frac{11}{12}$	10.	\$34.25	11.	\$31.05
12.	$\frac{8}{12}$	13.	\$0.10				

## Chapter 8

### Pretest, page 103

1a.	1 yd.	1b.	2 gal.	2a.	8 oz.	2b.	1760 yd.
3a.	24 in.	3b.	5 pt.	4a.	1 yd.	4b.	4 qt.
5a.	20 c	5b.	2 qt.	6a.	$1\frac{1}{2}$ in.	6b.	3 in.
7a.	$2\frac{1}{2}$ in.	7b.	1 in.	8a.	70 in.	8b.	68 ft.
9a.	300 sq. yd.	9b.	72 sq. in.				

### Pretest, page 104

10.	12	11.	6 ft.	12.	1,000 lb.	13.	25 yd.
14.	80 sq. ft.						

### Lesson 8.1, page 105

1. 3 in. 2.  $2\frac{1}{2}$  in. 3.  $\frac{1}{2}$  in.  
4.-9. Lines should be the length specified.

### Lesson 8.2, page 106

1.  $2\frac{1}{4}$  in. 2.  $\frac{3}{4}$  in. 3.  $1\frac{1}{4}$  in. 4.  $3\frac{1}{8}$  in. 5.  $1\frac{1}{8}$  in.  
6.-9. Lines should be the length specified.

### Lesson 8.3, page 107

	a	b	c
1.	15 ft.	96 in.	216 ft.
2.	4 ft.	5,280 yd.	864 in.
3.	1,000 yd.	2 ft.	10,560 ft.
4.	1 ft.	936 in.	4 yd.
5.	10 yd.	120 in.	2160 ft.
6.	12,320 yd.	200 ft.	108 yd.
7.	52,800 ft.	50 ft.	72 in.
8.	11 ft.	1,800 in.	3 ft.
9.	24 yd.	1 yd.	303 ft.
10.	14,080 yd.	16 yd.	10 ft.

### Lesson 8.3, page 108

1. 60 in. 2. 3 yd. 3. 75 ft. 4. 12 yd.  
5. 7,040 yd. 6.  $780 \div 3 = 260$  yd.  
7.  $10,000 \div 5,000 = 2$  mi.



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# Grade 4 Answers


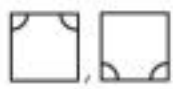



## Lesson 12.5, page 157

1. 2; 135    2. 190; 5    3. 25; 25  
4. 1245; 130    5. 20; 15    6. 25; 32

## Lesson 12.5, page 158

1.  $63 \times 7 = 441$     2.  $182 \times 2 = 364$   
3.  $58 \div 29 = 2$   
4.  $\$12.32 \times 5 = \$61.60$   
5.  $\$17.50 + \$18.50 + \$12.50 = \$48.50$

## Posttest, page 159

- | a  | b  |
|--|--|
| 1. 24, 23  | 256, 259   |
| 2. 33, 22  | 488, 441, 416  |
| 3. 82, 104   | 21, 33   |
| 4.   |  |
| 5.    |  |

## Posttest, page 160

6. 3; 75    7. 5; 6    8. 6; 20  
9.  $\$2.45 - \$1.13 = \$1.32$   
10.  $15 + 25 + 2 = 42$

## Final Test

### Page 161

- | a         | b      | c      | d      | e      |
|-----------|--------|--------|--------|--------|
| 1. 36     | 1,964  | 790    | 285    | 1,054  |
| 2. 4,330  | 980    | 12,750 | 1,055  | 3,659  |
| 3. 31,168 | 11,122 | 27,760 | 21,688 | 67,123 |
| 4. 91     | 79     | 48     | 39     | 53     |
| 5. 527    | 5,269  | 1,532  | 2,136  | 455    |
| 6. 429    | 1,281  | 754    | 2,007  | 818    |

### Page 162

- | a           | b      | c       | d       | e       |
|-------------|--------|---------|---------|---------|
| 7. 702      | 448    | 873     | 384     | 225     |
| 8. 9,604    | 1,170  | 1,728   | 4,158   | 2,241   |
| 9. 25,272   | 7,002  | 10,320  | 7,904   | 39,702  |
| 10. 295,470 | 84,126 | 270,096 | 142,344 | 122,500 |
| 11. 15      | 8      | 16r2    | 18r4    | 17      |
| 12. 82r1    | 291    | 125     | 197r2   | 100     |
| 13. 371r1   | 2641   | 938r3   | 2409r1  | 503     |
| 14. 1638r4  | 625    | 1400r4  | 730r1   | 1,230   |

### Page 163

15. tenths; ten thousands  
16. thousandths; hundreds  
17. 103,500; 2,000,000  
18. 23,000; 580  
19.  $14.05 < 14.95$ ;  $12700 < 12,703$ ;  
 $164,000 > 146,000$

20.  $17.05 = 17.05$ ;  $0.008 < 0.010$ ;  
 $0.010 < 0.100$

- |     | a             | b               | c             | d              | e     |
|-----|---------------|-----------------|---------------|----------------|-------|
| 21. | 1,000         | 220,000         | 3,880         | 64,000         | 9,000 |
| 22. | $\frac{6}{6}$ | $\frac{10}{12}$ | $\frac{2}{8}$ | $\frac{4}{12}$ |       |
| 23. | 1             | 4               | 25            | 56             |       |

### Page 164

- |     | a   | b        | c         | d     |
|-----|---|----------|-----------|-------|
| 24. | \$19.64   | 0.051    | 50¢       | 7.722 |
| 25. | 1 yd.   | 70 mm    | 10000 lb. |       |
| 26. | 6 pt.   | 72,000 g | 44 yd.    |       |
| 27. | 20,000 mm   | 14,000 m | 22,000 mL |       |
| 28. | 11 ft.  | 40 in.   | 44 m      |       |
| 29. | 150 sq. ft.; 176 sq. cm; 300 sq. in.; 2050 sq. cm |          |           |       |
| 30. | cupcakes; 15                                      |          |           |       |

### Page 165

31.  $\frac{3}{8}; \frac{0}{8}$   
32a. cube  
32b. rectangle  
32c. cylinder  
32d. pentagon  
32e. triangle  
33a. line segment  
33b. ray  
33c. right angle  
33d. obtuse angle  
33e. acute angle

- |     | a            | b             | c        |
|-----|--------------|---------------|----------|
| 34. | intersecting | perpendicular | parallel |
| 35. | 54           | 97, 112       |          |
| 36. | 1,095        | 0, 50, 125    |          |

### Page 166

37. A (5, 4); B (9, 1); C (0, 0); D (5, 0); E (0, 8)

- |     | a                        | b  |
|-----|--------------------------|----|
| 38. | 21                       | 22 |
| 39. | 5                        | 10 |
| 40. | 30                       | 3  |
| 41. | $1760 \times 10 = 17600$ |    |
| 42. | $28 \times 3 = 84$       |    |